

The Aftermath of the Tsunami Disaster
- a mixed methods approach exploring
youths' fundamental assumptions

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Abstract

This study is a part of an ongoing research project at The Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS).

Aims of the study: Research is needed to further the understanding of the challenges faced by youth survivors of trauma. Such understanding can be used to formulate adequate treatment methods for these youth. On the 26th of December 2004 a Tsunami disaster took place in South- and East-Asia. This study sought to explore the fundamental assumptions (Janoff-Bulman, 1992) of youth survivors of this disaster.

Methods: 56 Norwegian youth who had experienced the Tsunami were interviewed 10 months after and 2 ½ years after the Tsunami. The youth were born in the years of 1987 – 1993. The writer of the thesis took part as an interviewer alongside other trained interviewers. The youths' answers and reflections to five questions regarding the youths' fundamental assumptions (Janoff-Bulman, 1989) were analysed using both quantitative and qualitative approaches.

Results: A majority of the youth expressed a negative fundamental assumption of the world's meaningfulness and a positive assumption of the world's benevolence in both interviews. The youth who initially expressed positive assumptions tended to hold on to these assumptions. The youth who initially expressed negative assumptions tended to change to express positive assumptions between the interviews. However, these tendencies were not found to be significant. The youth expressed individual differences, both regarding the degree of their challenges and which beliefs they felt had been challenged. The youths' reflections evolved around interesting aspects for the five different questions, giving vital information to the discussion of the quantitative results.

Conclusions: The Tsunami experience affected these youth more negatively on their assumption of the world's meaningfulness than their assumption of the world's benevolence. A majority of the youth gave an impression of positive stability and change. Individual differences to which beliefs that were challenged and to what degree they were challenged were expressed. Most of the youth hold a solidified assumption of the world's benevolence.

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Preface

This study was a part of a project at the Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS) which focuses on different aspects of The Norwegian Tsunami survivors' challenges in the aftermath of trauma. The project is funded by the Directorate for Health and Social Affairs (SHdir) and has been approved by The National Committees for Research Ethics (REK).

Without the youth who so generously accepted to be interviewed for the sake of knowledge, this study would not have been a reality. Therefore, I wish to thank all the participants for giving me and my readers the opportunity to learn from their challenging experience.

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Theoretical background

Introduction

The theory of fundamental assumptions (Janoff-Bulman, 1992) has been a major contributor in the field of trauma research for over a decade. This theory states that we all have basic beliefs which concern two different aspects of our lives: the world and the self. Focusing mainly on contributions from the fields of psychoanalysis, social-cognitive psychology, and theories of informational processing, Janoff-Bulman outlines three assumptions as the most fundamental: 1) The world is benevolent, 2) The world is meaningful, and 3) The self is worthy. The theory further states that we are prone to hold on to these assumptions throughout our lifetime. Even when these beliefs are met with the typical periods of sorrow, pain and anger, our positive biases will still keep them positive. However, Janoff-Bulman states one type of events to be particularly challenging for our fundamental assumptions; these are potentially traumatic events. Indeed, studies have shown victims of trauma to express changes in their views on the world, other people and themselves (Franklin, Janoff-Bulman, & Roberts, 1990; Giesen Bloo & Arntz, 2005; Harris & Valentiner, 2002; Janoff-Bulman, 1989; Magawaza, 1999; Matthews & Marwit, 2004; Owens & Chard, 2001; Solomon, Iancu, & Tyano, 1997). However, these changes are found to be different depending on several factors; the type of traumatic event (Franklin et al, 1990; Giesen-Bloo & Arntz, 2005; Magawaza, 1999; Matthews & Marwit, 2004; Solomon et al., 1997; Janoff-Bulman, 1989), the individual characteristics of the victim (Harris & Valentiner, 2002), the victim's pre-existing beliefs (Basoglu, Mineka, Paker, Aker, Livanou, & Gok, 1997), and the victim's access to adequate social support (Harris & Valentiner, 2002; Jeavons & Godber, 2005) and health care (Harris & Valentiner, 2002; Jeavons & Godber, 2005). Thus, Janoff-Bulman's hypothesis on traumatic events' shattering potential holds a complexity that needs to be clarified.

What is a fundamental assumption?

The term *assumptive world*, one of Janoff-Bulman's many precursors, was first used by Cantril (1966) and later adopted by Parkes (1975) who defined it as

“a strongly held set of assumptions about the world and the self which is confidently maintained and used as a means of recognizing, planning and acting (...) Assumptions such as these are learned and confirmed by the experience of many years” (p. 132).

Thus, Janoff-Bulman states that each individual has his or her own world of beliefs which guides us in our day-to-day interactions with our surroundings. Other contributors have also

described similar terms and concepts in their theories, giving Janoff-Bulman's theory of fundamental assumptions a solid theoretical base; *working models* (Bowlby, 1971), *self-theory/world-theory* (Epstein, 1985), and *structures of meaning* (Marris, 1975).

Janoff-Bulman describes our world of beliefs as a hierarchically organised entity, where both basic beliefs and less basic beliefs are situated. The most basic beliefs; our fundamental assumptions, are described as abstract and wide concepts which are not to be mistaken for the more concrete and narrow concepts. While referring to the words of Epstein, Janoff-Bulman specifies this notion of a hierarchical formation of concepts:

“Everyone unwittingly develops a personal theory of reality that includes a self-theory and a world-theory. A personal theory of reality does not exist in conscious awareness, but is a preconscious conceptual system that automatically structures a person's experiences and directs his or her behaviours” (p. 5).

Thus, Janoff-Bulman states that the higher concepts are more easily available to our consciousness and therefore more acknowledged and recognised. The lower concepts, for instance the fundamental assumption that the world is benevolent, lie deeper in our consciousness. It is therefore harder to take explicit notice of such assumptions. Janoff-Bulman's own words are very precise on this matter:

“Our fundamental assumptions about the world are essentially our grandest schemas, our most abstract, generalized knowledge structures” (p. 29).

The more concrete schemas are thus easier to operationalise and more available for experiments. Such research has supported the notion of cognitive conservatism, which states that we are biased towards holding on to existing schemas when faced with new information (Asch, 1946; Beck, 1967; Fiske & Neuberg, 1991; Piaget, 1954; Ross, Lepper, & Hubbard, 1975). Janoff-Bulman (1992) expects an even stronger tendency towards such bias when speaking of our fundamental schemas:

“If we are biased against change in our narrower beliefs, even those formed within the context of an experimental study, imagine how much more resistant to change we must be at the level of our fundamental assumptions” (p.39).

Thus, even if we usually do not notice these most basic beliefs in the world and the self, they are stated to be guiding our interactions with our surroundings to a large extent. Also noted is the cognitive processing routines which protect these schemas.

But why do we develop such fundamental beliefs about the world and the self? Janoff-Bulman states that such beliefs provide us with three important qualities that are important for our well-being: a sense of security stating that we are safe no matter what, a sense of trust in

the notion that “things will always work out well”, and a sense of invulnerability entailing a perception of the self as indestructible. Stemming from the earliest of interactions, these three are stated to be connected with the development of our fundamental assumptions. They are deeply connected with our beliefs; believing in the goodness of people will for instance be necessary for having a sense of trust. Thus, protecting our beliefs is imperative for us to be able to experience these important senses, which Janoff-Bulman sees as the foundation for our ability to function.

The origin and development of our assumptions

From our first breath of life, we are immediately thrown into interacting cycles with our caregivers and significant others. Through such cycles, we are not just shaped and formed; we also shape and form our interacting partners (Stern, 1985). Seeking the basis for our fundamental assumptions, Janoff-Bulman turns our attention towards these cycles. She states that our assumptions about the world and ourselves are strongly connected to our first years of life. During these important years, our caregivers and significant others model the foundational beliefs that will guide our perceptions, thoughts and behaviour. Janoff-Bulman is leaning towards determinism when describing the important role of our earliest social interactions:

“Our earliest representations are extremely powerful, and although some change no doubt occurs throughout development, changes are less likely over time.” (p. 17).

Other significant contributions to the field of developmental psychology also hold this position (i.e. Bowlby, 1969/1973; Erikson, 1968; Kohut, 1971; Winnecott, 1965). John Bowlby’s (1969; 1973) writings on our *working models* have been a great inspiration to Janoff-Bulman. Bowlby states that the young toddler creates working models of the world and the self through the relationship with attachment figures. Following Erikson (1967), the quality of this relationship defines the value of the working model, not the quantity. In other words; the caregiver’s ability to be available for and attentive to the child’s needs defines the working models that are integrated in the child’s mind.

Stern (1985) has connected these clinically and psychoanalytically based theories with empirically based developmental psychology. Producing ingenious studies on the innate child, Stern describes five different areas of the self: the emergent self, the core self, the inter-subjective self, the verbal self and the narrative self. Stern’s main contribution to Janoff-Bulman’s theory is the area of self-experience, entitled the core self. Originating between the

age of two to seven months, Stern argues that the child becomes able to experience agency, physical wholeness, continuity through time, and recognition of patterns in its emotional experiences. This provides the child with the ability to differentiate between self-initiated actions and actions initiated by others. The child's capacity of memory also evolves significantly during these few months, making the child able to store informational data concerning its caregivers in episodic memory. Janoff-Bulman refers to this capacity as a necessity for the development of fundamental assumptions. This perspective is based on Stern's notion of the child's storage of specific experiences with its caregivers. These are at first stored separately, then combined, finally producing Generalized Representations of Interactions (RIGs). These generalized representations will eventually be combined, making the basis for the child's assumptions of its caregivers, its self and the interaction between them. Janoff-Bulman recognizes these representations as the very origins of the child's later assumptions of the world and the self, thus linking them to Bowlby's working models, which are said to derive from the very same interactional process. Thus, Stern's studies of the innate child can be interpreted as supportive of Janoff-Bulman's theory about the origins of our fundamental assumptions.

The following development of the fundamental assumptions is poorly described by Janoff-Bulman. As the child becomes an adolescent, the process of strengthening our fundamental assumptions is explained to be moving on in accordance with the protective and stabilising abilities of our cognitive systems. At the same time, the child's individual experiences are stated to be an important determinant in the continuing process of shaping our assumptions. Thus, the process is stated to be characterized by the child's interactions, not just with its caregivers, but also with other significant adults and its cultural context as a whole. However, adolescence is not included as a time of particular importance for the theory. The earliest social interactions set the standards; from then on, our basic beliefs are more or less determined. This is further enhanced by Janoff-Bulman stating that, as with Bowlby's working models, our fundamental assumptions' become more and more impermeable as adult life comes closer.

Thus, an adequate care giving relationship between a toddler and his or her caretakers is stated to provide all three qualities described earlier: a sense of security, a sense of trust, and a sense of invulnerability. As the child grows, however, these needs will be generalised in the same manner as their paralleled beliefs. For instance, the sense of trust and the assumption that the world is a good place will both be generalised to other areas of life as the child becomes a youth.

Even though our fundamental assumptions are highly resistant to change, there is one type of experience which, according to Janoff-Bulman, almost inevitably forces us to reconsider and rebuild even our most deeply rooted schemas. These are *potentially traumatic events*. Janoff-Bulman claims such events to be so frightening and threatening that they will rock our inner world to such a degree that even our most protected schemas will be forced to change.

The process of change

In the aftermath of the wars in Korea and Vietnam, focus on war veterans' psychological state increased, making room for *Post-Traumatic Stress Disorder* (PTSD) in the third edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (APA, 1980). Here, the term *traumatic event* was used as a part of the definition of PTSD. The term holds a rich history, both from medical sciences and the field of psychology, dating back as far as the 1800s (Trimble, 1985). Now, with its inclusion in DSM-III, the term was linked with PTSD. The specifications of both the diagnosis and the term have been revised somewhat since then, but it still entails a strong link with the description of PTSD, which describes symptoms known to appear in the psychological aftermath of an experience of

“actual or threatened death or serious injury, or a threat to the physical integrity of self or others”

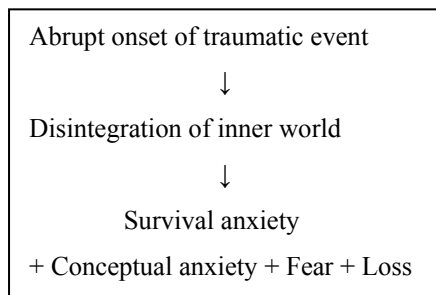
where

“the person's response involved intense fear, helplessness, or horror”

(DSM-IV; APA, 2000, p. 427-428).

Janoff-Bulman (1992) follows the DSM definition of trauma when taking position on the matter of change in our fundamental assumptions. She describes this process in detail, focusing on two aspects: the abruptness of the event and the disintegration of the self felt after such an event. These two aspects lead to a state of anxiety, one defined by the sudden insight that one's survival is no longer a given, and the other by the threatened survival of one's conceptual system. This reflects an important contribution to the understanding of this psychological aftermath; both the victim's outer world and inner world have changed, and both areas of change must now be dealt with. In addition to this major challenge, Janoff-Bulman points to two emotional states which are common among victims of trauma: fear, which is described as a consequence of one's threatened survival, and the feeling of loss, which she describes as a result of loosing one's fundamental assumptions and the comfort they provided (see fig. 0.1).

(fig 0.1)



Thus, Janoff-Bulman describes victims of trauma as troubled by several challenges. Firstly, their inner world and their outer world have changed dramatically. Both of these changes are to be dealt with. Secondly, the previously gained equilibrium between the two worlds is challenged. Studies have shown this balance to be of great importance for our mental health (Ginzburg, 2004; Jind, 2001; Jeavons & Godber, 2005). Thus, to regain balance between the new inner world, and the new outer world, also becomes an important challenge for victims of trauma. Thirdly, this process of change has to be dealt with in a state of anxiety, fear and loss, making it even more of a challenge for the victim.

Rebuilding the shattered assumptions

Relying heavily on knowledge of informational processing, Janoff-Bulman describes the process of recovery as entailing three different processes: 1) Automatic routines for processing the new data, 2) Efforts to reinterpret the new data, 3) Interactions with others that assist recovery. The automatic processing routines are described by Janoff-Bulman as a twofold process, including a) Denial of the incident, and b) Having intrusions and re-experiencing the incident. Previously, these automatic processing routines have been believed to hinder good recovery. Janoff-Bulman challenges this position by claiming that these processes are important for a good recovery, her rational being their fulfilment of the traumatized individual's basic psychological needs. However, it is duly noted that a peaking level of denial, which can be described as borderline dissociation, will be of damage for the recovering victim.

The second process of recovery has a clear-cut goal; to rebuild the inner world. This entails a re-establishment of the positive fundamental assumptions. The process is described as three-fold. Firstly, it is common for victims of trauma to compare themselves with other victims. This is often done in a downward manner; one compares oneself with hypothetical or real victims who are worse off. Janoff-Bulman claims this to be motivated by self-enhancement; others have put forward the need of self-evaluation and self-improvement

(Festinger, 1954; Wood, 1989). Secondly, victims often go through a process of self-blaming (Janoff-Bulman & Lang-Gunn, 1989). This is described as both a characterological and a behavioural process. The characterological process is the classic type of self-blame which is related to the victim's self-esteem. This type of self-blame does not contribute to a good recovery, on the contrary; it can be of great damage for an individual in the struggle of regaining its strength (Tennen & Affleck, 1990). The behavioural type of self-blame is, on the other hand, shown to be a strong contributor on the positive side of recovery (Affleck, Allen, Tennen, McGrade, & Ratzan, 1985; Peterson, Schwartz, & Seligman, 1981). Janoff-Bulman states that the reason is that behavioural self-blame entails a type of self-blame where the victim focuses on his or her behaviour. This can provide the victim with a feeling of being in control of future events. Thus, it is hypothesised to minimize the possibility of the victim perceiving the traumatic incident as completely random and completely meaningless, which in many ways could lead to a feeling of no control over one's life what so ever (Janoff-Bulman, 1992). Janoff-Bulman further states that our biased information processing supports this hypothesis; it is likely that we perceive interactions between intentional perpetrators and victims in the same way as we perceive regular interactions. This is posited to be based on our expectation of every interaction to be played out by rational individuals, thus leaving the victim as a contributing part of the interaction. Thirdly, many victims of trauma reach an understanding of their negative experience as a positive one (Linley & Joseph, 2001). They do this by focusing on the positive sides of the trauma, and as hard as this may sound, it is described by Janoff-Bulman as a common conclusion by victims who have had a successful recovery.

The third process of recovery involves the victim's surrounding social environment, which has been shown to be of great significance for a good recovery across different types of trauma incidents, victims' personalities and cultures (Linley & Joseph, 2001). Janoff-Bulman makes an interesting contribution to this field of research with her focus on the *quality* of the social support, not just the existence of it. From this position, she reveals the difficulty of being supportive for a victim of trauma, due to the victim's symbolic disconfirmation of its own positive fundamental assumptions. Janoff-Bulman claims this to be a cause of *victim-blaming*. The non-victim blames the victim for being traumatised, leaving the non-victim in a position to keep its fundamental assumptions based on his or her own personal attributes. The need of holding on to one's positive illusions is further accompanied by biased information processing; it is common for both victims and non-victims to make conclusions about causality in hindsight (Fischhoff, 1975; Lerner, 1980). This creates a false understanding of the

victim as being able to see what would happen, thus creating a false attribution to the victim as responsible of the trauma. The incidence has been shown to be greater when the trauma is caused by an intentional act by another human being than in situations which do not include such an act; in particular, sexual assaults toward women (Janoff-Bulman & Timko, 1987).

The three processes of recovery have now been described. However, according to Janoff-Bulman, there are at least three important facts to recognize on the part of dealing with trauma which point to the important differences between different cases. Firstly, the type of traumatic event has strong implications for which state of mind the victim will enter. A natural disaster, for instance, would not cause the victim to be afraid of other human beings to the same degree as a rape would (Franklin et al, 1990; Giesen-Bloo & Arntz, 2005; Janoff-Bulman, 1989; Magawaza, 1999; Matthews & Marwit, 2004; Solomon et al., 1997). Secondly, the individual characteristics of the victim are strongly related to how the trauma is dealt with. For instance, a depressed individual will be expected to deal with trauma differently than a non-depressed individual (Harris & Valentiner, 2002). Thirdly, the content of the victim's fundamental assumptions will have strong impact on the subsequent rebuilding process following a traumatic experience. Untested assumptions would, for instance, entail a larger discrepancy when faced with a traumatic event than assumptions which have previously been put to the test by difficult experiences (Basoglu et al, 1997). Also, having the necessary social support (Harris & Valentiner, 2002; Jeavons & Godber, 2005) and health care (Harris & Valentiner, 2002; Jeavons & Godber, 2005) is important for how a survivor deals with the episode.

Posttraumatic growth

People who have experienced potentially traumatic events have been shown to gain positive outcomes (Linley & Joseph, 2001). This has led to the formation of a field of research on such outcomes entitled Posttraumatic Growth. Tedeschi & Calhoun (2004) defines this term as

“positive psychological change experienced as a result of the struggle with highly challenging life circumstances” (p. 1).

Following the positive psychology approach initiated by Martin Seligman and others in the early eighties the focus on such positive outcomes of experiencing potentially traumatic events has increased in areas of research. However, it was not systematised in a separate field of research until the 1990s. Now, increasing amounts of empirical findings suggest that such positive outcomes can be found in people facing a wide range of potentially traumatising events (Calhoun & Tedeschi, 1996). Tedeschi & Calhoun (2004) have been major

contributors on this field of research. They rely heavily on Janoff-Bulman's theory of fundamental assumptions in their model describing the process of posttraumatic growth (Calhoun & Tedeschi, 1996). However, Janoff-Bulman (2004) sees this model as being scarce on explaining the underlying factors of posttraumatic growth. She has therefore suggested three explanatory models which seek to specify the details of the coping process that underlie such positive outcomes. The first model focuses on the strength typically experienced by the survivor after managing to overcome a traumatic event. Janoff-Bulman sees this as being best explained directly; the survivor has experienced that he or she is able to manage a severe challenge, and is therefore strengthened. Thus, the changing of the survivor's assumptive world is not seen as a constructive approach for explaining such a positive outcome. However, the second explanatory model is better described through a perspective on the changing of our fundamental assumptions. This model focuses on the survivor being more psychological prepared for facing trauma after coping well with his or her first traumatic experience. Such a finding will best be described on the basis of a rebuilding of one's assumptive world where one incorporates the knowledge of being vulnerable. This entails a change in one's assumptions; these are still positive, but now they are less absolute than they were before experiencing the traumatic event. The third model is even better explained by the fundamental assumptions approach. This model focuses on the survivors' newfound appreciation of life. Janoff-Bulman sees this as a consequence of the enforced search for meaning a survivor faces in the aftermath of trauma. Having experienced that life is vulnerable; the survivor will gain a perspective on life as being something very precious. Thus, the survivor has now found meaning in life that was not present before his or her life was challenged:

“In essence they have moved from concerns about the meaning of life to the creation of meaning in life” (p. 33)

Other theoretical perspectives

Janoff-Bulman is not the only contributor to the evolving field of trauma theory who focuses on the traumatized person's beliefs or assumptions. Many theories have been published, especially so in the last two decades (Epstein, 1991; Horowitz, 2000; Resick & Snicke, 1992; Roth & Lebowitz, 1988; Roth & Newman, 1990). All of these contributions agree on the potentially shattering effects in the cognitive belief system caused by events perceived as traumatic by the victim. They further agree on the construction of a new belief system, where pre-trauma beliefs and post-trauma beliefs can be integrated, as the core of an adequate

coping process. As such, they share an understanding of the continuity of change as dependant on the coping process, where several different variables will play a significant role. The theories do not agree on which beliefs are to be put to the core of this system. Several specified beliefs have been stated to be of great significance to the traumatized individual's coping process, not all of them are similar to the three posited by Janoff-Bulman. However, the specifics of these other assumptions are of limited interest to this paper. Theoretical contributions which differ on Janoff-Bulman's descriptions of change is of greater interest, and even more so, their perspective on the continuity of change.

McCann & Pearlman (1990) has made a solid theoretical contribution to this paradigm. Based on what they call constructivistic self-development theory (CSDT), they criticise Janoff-Bulman (1989) for not focusing on the connection between the individual's *schemas* and *psychological needs*. The theory is a synthesis of object relations theory, self psychology, social learning theory and social cognition research. It integrates the individual's self, life story, and social and cultural context to a solid description of the individual's inner world in the face of challenges. The theory list seven psychological needs as basic for the individual: The need of a frame of reference, safety, trust/dependence, esteem for self and esteem for others, independence, power and intimacy. As McCann & Pearlman (1990) so clearly states it;

“We view these schemas as the cognitive manifestations of psychological needs” (p. 58).

Beliefs, assumptions and expectations are listed as such schemas. Based on the seven need categories, McCann & Pearlman describe seven corresponding belief categories; beliefs about a frame of reference, safety, trust/dependency, esteem for self and for others, independence, power, and intimacy. This definitely expands Janoff-Bulman's notion of the three basic assumptions. But, there are many similarities between the two. Firstly, the need of a frame of reference, which refers to the need of meaning, is said to be foundational for beliefs which are comparable to Janoff-Bulman's belief in a meaningful world. Likewise, the needs of safety, trust, and esteem for others make out the base for beliefs similar to Janoff-Bulman's belief in a benevolent world. Finally, the need of esteem for self reflects beliefs that can be regarded as a parallel to the belief in worthiness of self, posited by Janoff-Bulman (1992). The similarities are striking, and it can be said that Janoff-Bulman's three assumptions are a more general description of the more specified beliefs stated by McCann & Pearlman. The main difference between the two approaches is the different perspectives on the psychological basis for these fundamental assumptions. Where McCann & Pearlman fully describe the foundation for our

basic beliefs by focusing on seven specified basic psychological needs, Janoff-Bulman can be said to be not as specific. It can be argued that her theory would benefit from absolving a more in-depth analysis of the basis for creating cognitive schemata than the loosely defined need for security, trust, and invulnerability.

Bolton & Hill (1996) has also made an interesting contribution to this area of research by launching a different perspective on the beliefs' foundation than the one posited by Janoff-Bulman:

“The world is safe enough, predictable enough, satisfies enough needs, and the agent is competent enough.” (p. 357)

This description is quite different from the one stated by Janoff-Bulman in three significant ways. Firstly, Bolton & Hill regard these beliefs as necessary for the individual's ability to act. This difference reflects the core of Bolton & Hill's theory; they regard the ability to act as the most important of all human characteristics, and as such, our beliefs have to support us in this notion. Secondly, these beliefs are phylogenetic, which make them attributable to animals as well as human beings, reflecting an evolutionary theoretical base. Thirdly, its wording, which corresponds with the “good enough” notion, states that the individual does not demand more than an adequate level of safety, predictability, satisfaction of needs, and competence. Following this notion, they claim these levels to be subject of individual variation, reflecting three types of beliefs: Strictly positive, balanced or strictly negative. Among the three, balanced beliefs are regarded as the better fit with good mental health – this based on their understanding of the world and the self as both good and bad, making the individual more capable of facing the typical variations of day-to-day living.

Foa, Ehlers, Clark, Tolin, & Orsillo (1999) have made a similar contribution. Based on their emotional processing theory, they focus on the beliefs' rigidity, not their specifications, dividing the beliefs in not more than two categories; the world and the self. Foa and her colleagues believe that to be flexible is an important capacity when coping with a traumatizing experience, stating that rigid beliefs have negative influence on the coping process. Indeed, Foa et al (1999) found this to be true, showing positive associations between rigid beliefs and increased levels of PTSD. Emotional processing theory also focuses specifically on the perception of one's own incompetence and fear, which are highlighted as perceptions which typically mediate the development of PTSD. The theory further states that beliefs which are present before, during and after the traumatic incident will potentially interact to reinforce this negative cognitive state.

However, there are several important gaps in the present research on the victim of trauma's assumptive world. Firstly, there are very few studies on youths' fundamental assumptions in the aftermath of trauma and no studies which focus on youths' fundamental assumptions after experiencing a natural disaster. Also, there are no studies focusing on the connection between age and fundamental assumptions in adolescent populations (Harris & Valentiner, 2002). The theory of fundamental assumptions states that children are more prone to adapt to their changing surroundings than adults (Janoff-Bulman, 1992). However, the theory states that our assumptions are more and more solidified for each year of growth. Thus, it would be expected that youth have more solidified assumptions than children, but less so than adults.

Aims of the study

Clinical practice is dependent on a solid base of research which can be used to formulate adequate treatment methods for youth survivors of trauma. To understand more about the challenges such youth survivors face, this study sought to explore their fundamental assumptions (Janoff-Bulman, 1992). The youth of this study were all directly affected by the Tsunami disaster in South- and East-Asia in December 2004. This disastrous event killed more than 200.000 people from many different countries, including Norway. The specific aims of the study were to see whether these youths' assumptions had changed due to their potentially traumatic experience and to see whether their assumptions were stable or changed over time. Also, the study aimed to see how the youth reflected on their changing assumptions. These aims were formulated in four research questions:

- 1) What are the youths' fundamental assumptions 10 months and 2 ½ years after the Tsunami disaster?*
- 2) To what degree do the youth report of changes in their fundamental assumptions 10 months after the Tsunami disaster?*
- 3) Were the assumptions reported by the youth 10 months after the Tsunami also expressed two years later?*
- 4) How do the youth reflect on the questions about the world's benevolence, the world's meaningfulness, and their changes?*

Methods

Choice of methods

For a study to produce a good result, it is imperative that the methods used are appropriately matched with the aims of the study and the theory which the study is based on (Brannen, 1992). It has also been stated that choosing a method should be anchored in the knowledge the researcher has on the subject of interest, and what the researcher wants to explore on this subject (Haavind, 2000). For all research questions, it was decided that the optimal way of exploring the four research questions was to interview youth survivors of trauma about their world beliefs.

For the first three research questions, it was natural to use five questions which had been formulated by the theory of fundamental assumptions. The questions were all derived from the World Assumption Scale (WAS; Janoff-Bulman, 1989).

To answer the fourth research question, which aims to explore change, two choices were made. Firstly, it was decided to not only ask the youth about their beliefs, but also ask them to reflect on these beliefs and how the beliefs might have changed after the Tsunami. Secondly, it was decided that they should be interviewed twice, both 10 months after the Tsunami and 2 ½ years after.

The choice of analytical strategies should also be appropriately matched with the research questions. Two different approaches were found to provide the optimal strategy of analyses; the first three research questions were explored using a quantitative approach while the fourth research question was explored using a qualitative approach. Using both quantitative and qualitative analyses within one study has been described as using *mixed methods* approach. The methodological literature has pointed out the traditional separation between these two “paradigms” of research by focusing on the collection of data and the process of analysing the data (Layder, 1988). However, the difference stem from more philosophically based traditions, reflecting on the relationship between epistemology, theory, and method. Brannen (1992) describes three typical differences between the two traditions, pointing to the different ways of treating and collecting data, and the different potential for generalising the results. However, some have argued that the difference between qualitative and quantitative methods is close to being unnecessary and that it might even be dangerous (Hammersley, 1990).

Different strategies have been proposed for how to combine quantitative and qualitative methods. Bryman (1988) points out three main strategies: The qualitative work is

used as a facilitator of the quantitative work, the quantitative work is used as a facilitator of the qualitative work, or both methods are given equal emphasis. The three first research questions were considered to be best explored through a quantitative approach. However, the fourth research question explores the youths' own reflections on these quantitative results. This was considered to be within the realms of a qualitative approach. Thus, this study holds a quantitative approach as a basis of the analyses, with a qualitative approach as a facilitator of these quantitative findings. The first strategy described by Bryman (1988) is therefore descriptive of my study.

Following the Consensual Qualitative Research approach (Hill et al, 1997; 2002), the qualitative analysis was done holding a predominantly constructivist perspective. To be specific, this includes three important methodological aspects. Firstly, the approach recognizes that the "truth" is subjective and a matter of social construction. Thus, I saw it as important to let the youths' individual perspectives be heard, no matter how badly they matched my own perspectives on the matter in question. Secondly, the researcher and the participant are seen as mutually influencing each other. This came to be an especially interesting part of doing the qualitative analysis. As I read the youths' transcripts and tried to understand their heartfelt meanings, I often stopped to wonder about what they had said. Not because I found it strange, but for the most part because I found it to be enlightening. Thus, this came to be a process of learning for me, as would be expected when holding a constructivist perspective. Thirdly, the researcher's biases are seen as inevitable, but by holding these out in the open, i.e. through discussions, the researcher will be able to hold them at a distance. This will help minimising their influence on the results. This perspective also came to be an interesting part of my qualitative analyses. How these three perspectives were used during the analyses will be described in more detail in the analyses section.

The Tsunami disaster

In the morning on the 26th of December a Tsunami hit the shores all over South and South-East Asia. The Tsunami was caused by an earth-quake in the ocean west of Indonesia. Around 200.000 people were killed by the waves. Indonesia, Malaysia, Thailand, Bangladesh, Burma, India, Sri Lanka & the Maldives, Kenya, Somalia, Tanzania, the Seychelles and South-Africa were the most affected countries. An estimated 3500 Norwegians were situated in areas affected by the disaster at the time of the incident. A total of 84 Norwegians were killed, and 26 of these were children. (Report made by the Norwegian Commission for evaluating the Tsunami disaster, 2005).

The context of this disaster was horrifying. Most of the Norwegian survivors were on holiday, celebrating Christmas. As many of them were sitting on the beach eating breakfast, a moment of peace was turned to days of terror. Suddenly, they were forced to struggle to survive, some more than others; some lost their lives and some lost their loved ones. The details of their experiences were different. Some had been hiking or in unaffected areas at the moment of terror. These would go back to find their hotel in ruins. On the other side of the scale you find those who were out swimming or lying on the beach as the waves struck. Many of these had to fight with the water masses for several hours. Another difference was that some areas were struck harder than other areas, the ones situated at Khao Lak being most badly struck by the waves. In conclusion, the Norwegian survivors were exposed to different degrees of danger, but all of them were somehow affected by the Tsunami, either through witnessing the hurting of others or by being more directly affected themselves.

The sample

The sample consists of 56 Norwegian teenagers who had experienced the Tsunami disaster first hand when on holiday with their families. In June, 2005, The Norwegian Centre on Violence and Stress Studies (NKVTS) sent out a survey to approximately 2150 of the survivors aged 18 or older. Parents with children between the ages of 6 - 18 years old were subsequently asked to be interviewed, including their children. 88 families, who had all been in Thailand at the time, joined this part of the study, resulting in a total population of 88 parents (one from each family) and 142 children.

The final population of the present study were selected on the basis of the following selection criteria: 1) Age; only the participants who were between the ages of 12 - 18 years when the first interview were conducted were asked about their fundamental assumptions. 93 participants fitted this description. This included those who were born between the years of 1987 and 1993. 2) Drop-out; due to the study's aim of exploring change in a period of 2 ½ years, the youth had to take part in both interviews. 26 youth who participated in the first round of interviews did not participate in the second round of interviews. Also, two interviews from the first round of interviews were damaged due to computer errors. Thus, 28 youth who participated in the first interview had to be cut from the sample. 3) Degree of exposure; two youth were not situated in an affected area during the disaster. As such, they were not considered to have experienced a potentially traumatic experience. These were therefore not included in the sample.

Five youth who satisfied the three criteria had not been interviewed yet when this paper was finalised. Also, two youth were wrongfully labelled as being too young to be a part of my sample. This mistake was noticed after all the analyses were done. It was therefore too late for me to include them in the study. This resulted in a final sample of 56 youth. 39 of these were rated as highly exposed, while the remaining 17 youth were rated as moderately exposed.

The sample includes 31 girls and 26 boys and, as can be seen in tab. 1.2, it holds a good variation of ages, with the typical youth being born in 1989. The sample consists of youth situated all over Norway, with most of them living in the eastern parts in and around the capitol of Oslo. For the most part, this is a resourceful group of youth rated as having a middle or high range socio-economic status.

Age_distribution (Tab. 1.2)

Year of birth	n =
1987	8
1988	8
1989	11
1990	8
1991	9
1992	9
1993	3
n =	56

The interview

The data used in this study was taken from a larger interview study conducted at NKVTS. The interview focused on several different aspects of the respondents' challenges in the aftermath of their Tsunami experience. The youth were interviewed twice, both 10 months and 2 ½ years after the Tsunami. Both times, they were interviewed in their homes. One of their parents, and also their participating brothers or sisters, was interviewed the same day. The interviewers were psychologists, psychiatrists, or other academically based professionals who were trained in the usage of the interview. I participated as an interviewer in the follow-up study. The usage of trained professionals ensured that ethical demands regarding the interviewing of minors were satisfied. The study was approved by the The National Committees for Research Ethics (REK).

The interview that was used 10 months after the Tsunami was changed before the second round of interviews were started. These changes were for the most part done to avoid repetitions and to shed light on the period that had passed between the interviews. However, these changes did not affect the five questions from the WAS, since a part of the reason for asking was to explore change.

For the youth between the ages of 12 – 18 years, five questions derived from The World Assumptions Scale (WAS; Janoff-Bulman, 1989) were included in the interview. This scale was created as an operational device based on Janoff-Bulman's theory and research on our fundamental assumptions about the world, other people and our selves. WAS contains 32 statements covering the three assumptions Janoff-Bulman claims to be the most fundamental of all assumptions. These are: a) The world is benevolent, b) The world is meaningful, and c) The self is worthy. The responses can be analyzed through eight subscales suggested by Janoff-Bulman (1989): 1) Benevolence of the world, which include items that reflect a belief that the world is a good place to live, 2) Benevolence of people, which include items that reflect a belief that most people are good and do not wish to hurt others, 3) Justice, which include items that reflect a belief that outcomes are distributed in a fair or just manner, 4) Controllability, which include items that reflect a belief that an individual may control the outcome of events by being a good person, 5) Randomness, which include items reflecting a belief that the events of life are distributed in a random fashion, 6) Self-Worth, which include items reflecting an individual's degree of self-perception and self-esteem, 7) Self-Control, which include items that reflect a belief that this individual has behaved in ways that are likely to result in positive outcomes, and 8) Luck, which include items reflecting a belief in being fortunate most of the time. Studies have shown the subscales of the WAS to be adequately reliable (.86 for benevolence of the world, .74 for meaningfulness of the world, and .87 for self-worth; Ullman, 1997). It has also been shown to have high validity, confirming the existence and diversity of the subscales (Janoff-Bulman, 1989; Wickie & Marwit, 2001). However, some studies have indicated a low to moderate degree of internal consistency within the eight subscales (Harris & Valentiner, 2002).

The five questions used in the interview were: #1 Do you think the world is a good place?, #2 Do you think people are basically good?, #3 Do you think bad things can happen to good people?, #4 For the most part, do you think people can stop bad things from happening?, #5 Do you think all things happen randomly? According to Janoff-Bulman, each of these questions correspond with different subscales in the WAS (number of corresponding question is shown in parenthesis): The benevolence of the world (#1), the benevolence of people (#2),

justice (#3), controllability (#4), and randomness (#5). For different reasons, the other three subscales were not included in the study. The subscales evolving the self; 6) Self-worth and 7) Self-control, were not represented in the interview. The reason was that Janoff-Bulman (1989) states that natural disasters have little or no effect on these subscales. Also, the subscale focusing on luck was not included. In retrospect, it seems that this subscale should have been included. A substantial amount of youth commented on luck in other parts of the interview.

The questions from each of the five domains were read to the respondent by the interviewer, one by one. The respondent was then asked another question to see whether their position had changed after the Tsunami experience, using the phrase “Do you think differently about this now, after the Tsunami experience?” For the sake of getting a complete picture of the respondent’s experience of change, the answer to this question was explored, using the phrase “Please tell me more about that”.

The five questions were translated from English to Norwegian for usage in a sample of Norwegian youth. They were also found not to be suitable for youth aged as young as 12 years. Thus, they were changed to fit well with the sample in question. The questions which are written here were thus translated back to English after going through several changes. Thus, some of them will not be found to be exactly the same as the ones used in the WAS, but they will all be found to express the same meaning as their corresponding subscales.

Analyses

This study includes four research questions: *1) What are the youths’ fundamental assumptions 10 months and 2 ½ years after the Tsunami disaster? 2) To what degree do the youth report of changes in their fundamental assumptions 10 months after the Tsunami disaster? 3) Were the assumptions reported by the youth 10 months after the Tsunami also expressed two years later?, and 4) How do the youth reflect on the questions about the world’s benevolence, the world’s meaningfulness, and their changes?*

All four research questions were explored on the basis of the youths’ answers to the questions asked in the interview. However, the analyses were done differently for each of the four research questions.

1) What are the youths’ fundamental assumptions 10 months and 2 ½ years after the Tsunami disaster?

For each of the two interviews, the youths’ answers to the five questions were used as a basis for the analyses. In the first round of interviews, the interviewer scored the answers in four

different categories; “Yes”, “No”, and “Both”. The first category includes the youth who confirmed the position indicated by the relevant question. The second category includes the youth who disconfirmed the position indicated by the relevant question. The third category includes the youth who stated that the position indicated by the question was true for some situations or people and not for others. Also, the youth who otherwise stated both “yes” and “no” to be qualified answers were included in this category. A fourth category (“Not answered”) was added to include the youth who did not conceive an answer or expressed difficulties with giving an answer to the relevant question. The results from these analyses are shown in tabs. 1.1 - 1.4.

2) To what degree do the youth report of changes in their fundamental assumptions 10 months after the Tsunami disaster?

These analyses were based on a previous analysis conducted on the data from the first interview study (Stormyren & Jensen, in press). 88 youth who took part in the first interview were included in this first study. From these analyses the 56 youth in my sample were extracted and analyzed further.

For these analyses, the answers to the questions of change were scored in three categories for each domain: “Yes”, “No” or “Don’t know”. Some youth were found to express answers to the question of change which did not correspond with their subsequent description of this change. For instance, a youth would answer “no” when asked about change. However, when the youth was asked to clarify the answer, he or she would follow through by expressing change. Therefore, the full dialogue between the interviewer and the youth was used as a basis for scoring. This made it possible to score the youths’ answers in a way that was interpreted as their heartfelt positions. The next step was to rate the reported changes in three different categories; *Positive change*, *Negative change*, and *Neutral change*. The first category included the youth whose descriptions were interpreted as positive. For instance, a youth reporting to have a more positive perspective on the goodness of people than she had before the Tsunami was rated as having experienced a positive change in this belief. The second category was used to describe youth who expressed negative change. For instance, a youth reporting that he saw the world as a worse place than he did before the Tsunami was rated as having experienced a negative change in this belief. The youth included in the third category confirmed to have changed, but they did not provide enough information to make it possible for the researchers to rate their changes as positive or negative. For instance, a youth answering “yes” to the question of whether her belief in people being good had changed, but

without clarifying her response in more detail, was rated to have experienced a neutral change in this belief. The results from these analyses are shown in tabs. 2.1 - 2.4.

3) Were the assumptions reported by the youth 10 months after the Tsunami also expressed two years later?

For these analyses, both interviews were used as empirical basis. By comparing the positions held by the youth in the two interviews, which were found in the analyses of the first research question, a third category of results was created.

I see it as important for the reader to take notice of the different analytical approaches used in the exploration of the second and the third research question. The second research question aims to explore the youths' changes in the first year following their Tsunami experience. Since there were no pre-existing measures of the youth's basic assumptions before the tsunami, for this research question, the youths' subjective experience of change, as expressed in their answers from the first interview, was found to be the optimal empirical basis. This analytical approach was also first tried in the exploration of the third research question. However, a problem arose when analysing the youths' reflections of change in the second interview. The very same question of change that was asked in the first interview now resulted in reflections on the whole period of the study, starting with the Tsunami and ending with the present moment. Thus, it was decided to use a comparison of the measured assumptions from the first and the second interview.

The results were further analysed for statistical significance using the McNemar Test for paired proportions.

The results from these analyses are shown in tabs. 3.1 - 3.5.

4) How do the youth reflect on the questions about the world's benevolence, the world's meaningfulness, and their changes?

For this research question, I explored the themes typically described by the youth when reflecting on the five questions and their corresponding questions of change. This was considered to be within the realms of a qualitative approach. The Consensual Qualitative Research approach (Hill et al, 1997; 2005) has been my main inspiration for these analyses.

I wanted the analyses to include the whole timeframe of the study. Therefore, the answers from the second interview were used as an empirical basis. This made it possible to see how the youth reflected on their changing assumptions in retrospect at the end of a 2 ½ year long period of potential change.

The total number of respondents can be claimed to be large for such an analysis. However, the answers given were for the most part very concise and to the point. Therefore, the text material drawn from the interviews was considered to be well within the realms of such analyses. Also, the usage of a stage-like process of analyses gave the work a solid structure which eased the work significantly. The five steps of this analytical process will now be described.

Step 1: Getting to know the data

The initial part of the analyses was to get to know the data at hand. Thus, I read the youths' answers to all five domain questions, from both interviews, several times. While reading, I tried to recognize what intrigued me, what made me wonder, what made things clear and what made things cloudy. In retrospect, I see that I should have written these thoughts down as I read. This would have made it easier for me to hold track of my thoughts and how these influenced my interpretations of the youths' answers. However, this process of reading and re-reading came to be very important for my further understanding as the analytical process took form.

Step 2: Selecting and coding the domains

Domains are the overall topics used to group data. The domains in this analysis were derived and named in accordance with the five subscales from WAS. The CQR approach sees this as an acceptable method. However, it enhances the importance for the researcher to allow for the data to reshape them during the analytical process.

Following the CQR approach, the answers to each question were analysed for information pertaining to the domains. The CQR approach states that it is important to allow for the domains to be changed during the subsequent analyses if new domains emerge from the data. . I did not see the need for changing my domains during the analyses, as most answers from both interviews corresponded well with the five domains set by the WAS.

Step 3: Selecting core ideas

Core ideas are summaries of the data that capture the meaning of the respondent's answers or views. Core ideas are to be formulated free of interpretations, staying close to the words that actually were uttered by the respondents. Hill et al (1997; 2005) suggest the strategy of selecting core ideas as a way of enhancing the essence of the narratives. By scrutinizing the respondent's answer, word by word, sentence by sentence, I was able to clean out words that

did not possess meaning, yet keeping the words uttered by the youth. Each youth was singled out during this process to make sure that the core ideas gave me a more concrete and informative picture of each and every one of them. Also, each domain was analysed separately. This made it possible for me to hold track of the individual youth during this process. “Things are very unevenly distributed” (girl, 19) is a typical core idea extracted during this process. This particular core idea was extracted from an answer to the question “Do you think the world is a good place?”

Step 4: Cross-analysis

Following the CQR approach, the next step was to categorize these core ideas. This is a process where all of the core ideas are gathered and analyzed. The goal of this process is to find common ground across the respondents’ different answers. During this phase of the analyses, two researchers at the Norwegian Centre for Violence and Traumatic Stress Studies took part with me to form a team. Initially, the three of us worked alone, reading through the core ideas from the interviews, trying to find common themes that could be formulated in categories. After some time of working individually, we met with our subjectively based material to compare our categories. As described by Hill et al (1997; 2005), this became a lengthy process which took a lot of hard work and several read-throughs. Some categories were renamed, some were added to others, and some were thrown out. When trying to finalise the categories the first time, the team did not reach a solid consensus. Therefore, we decided that each of us would go back to the data once more to get a better picture. When meeting up a second time, a new member was added to see whether this gave new insights. This second trial came to be very important for the finalising of the categories. In this second round, a strong consensus on the themes of the answers was reached. In the end, the process of creating a final categorization of the core ideas came to be constructive for all parties involved.

The CQR approach recommends that the researcher holds track of the number of respondents who are represented within each category. I sought to satisfy this principle by tracing each youth’s core ideas. Whether or not one should include the numbers of youth sharing the same ideas when writing the results of qualitative analyses has been a matter of discussion. The reasons being that such an approach should focus on the different perspectives per se, not how many of the respondents who share the same perspective (Brannen, 1992). Following this line of thinking, I chose not to present these numbers when writing up my results. Instead, my description includes the typical themes which are

expressed by the youth as a group. Thus, I have chosen to exclude the more unique themes that were expressed when writing the results. This, however, is in line with the CQR approach.

Step 5: Stability check

Reliability is not usually associated with a qualitative approach (Kvale, 1997). However, the CQR approach states that an estimate of the results' reliability can be provided in such analyses. This can be done by separating the sample before starting the analyses. This will give the researcher an opportunity to analyse the two different groups of respondents separately. Then, the categories extracted from the two analyses can be compared. Following this line of thinking, I decided to divide my sample in two groups of 46 and 10 youth before analysing them separately. The categories were found to be similar across the two groups, indicating strong reliability.

Reflections on methods and methodology

The interview

Following a constructivist perspective on reality (Hill et al, 1997; 2005) the reflections made by the youth during the interview can be seen as a uniquely created product of the situation. The situation is unique because it involves reflecting to a complete stranger, and also because this particular stranger decides which topics the youth should reflect on. As such, the reflections can be seen as a co-constructed product where both the interviewer and the youth contribute. Thus, it is important that the interviewer is aware of his or her biases when doing the interview. For this particular study, the interviewers were trained professionals which were instructed to keep a close eye on such biases. Further more the interview was semi-structural, meaning that the interviewer's ability to create questions was limited. This can be seen as a good way of reducing the effect of these eventual biases.

Another challenge of using an interview approach is the misunderstandings that might occur between the interviewer and the respondent. To face this particular challenge, the interviewers in this study were instructed to be sure they understood the youths' answers before scoring. This entailed that they should ask explorative questions so that the youth could describe their answers more thoroughly.

Also, the retrospective nature of the interview situation has been reported to be a challenge. In this study, the youth were asked to reflect on changes dating as far as 2 ½ years

back in time. Hill et al (1997; 2005) states that the questioning of respondents should be done as close to the explored event as possible. Thus, it could be stated that the first interview should have been done before 10 months had passed from the time of the Tsunami disaster. However, the analyses of the changes between the two interviews did not entail a retrospective reflection approach. Here, a comparison of the youths' scored answers was used as the basis of a quantitative analysis. Thus, for the exploration of this time period, retrospection was not a challenge.

Using an interview approach gave the youth ample opportunity to reflect on their answers with the interviewer. Using a questionnaire does not include such an opportunity. This can be seen as a strength of this study, and by looking at the answers given, it seems that most of the youth needed this opportunity to finalise their answers.

The World Assumption Scale

To explore two of the three fundamental assumptions stated by Janoff-Bulman (1992) five different questions were translated from the World Assumption Scale (WAS; Janoff-Bulman, 1989). The WAS includes four questions per subscale; each subscale measures one assumption, and several subscales are used to measure one of the three fundamental assumptions. To explore the assumptions as thoroughly as the WAS, this study should have included more questions for each assumption. Several other aspects were explored in the interview. Thus, to include all the questions from the WAS would mean that the youth would have to be interviewed for a pressing amount of time. It was therefore concluded that only one question could be included for each of the five assumptions.

The WAS uses a Likert scale from one to six. This has been done to ensure that the nuances of the assumptions are explored (Janoff-Bulman, 1989). This study did not use such a scale. Instead, the five questions were formulated in such a way that the youth had to answer "yes" or "no". This came to be a challenge for some of the youth. Thus, in hindsight, it seems that a combination of using an interview and a Likert scale would have been a more fruitful approach for this study.

The researcher

The researcher's biases have been stated to be an important aspect of research (Hill et al, 1997; 2005). I sought to ensure that my biases were duly noted and discussed during the analyses, so that I could hold them on a distance. My strategies for doing so have been described in the analyses section of this paper. I recognise the fact that my biases have been

present during this whole process. However, I feel that the strategies used were fruitful, and that the results have not been coloured to a degree of concern. In particular, I see that having a team to discuss my perspectives and expectations with have been constructive.

Results

*1) What are the youths' fundamental assumptions 10 months and 2 ½ years after the Tsunami disaster?*¹

10 months after the Tsunami

According to Janoff-Bulman's theory one would expect that youth that have experienced such severe trauma as the tsunami disaster would have shattered their fundamental world assumptions, i.e. the benevolence of the world and people, that life is predictable, and just, and that most things do not happen randomly. However, for the youth interviewed in this study the relationship between their traumatic experiences and their world assumptions seems more complex. See tab.1.1

In the first assumption, where the youth were asked whether the world is a good place 10 months after the Tsunami, 63% (n=35) concluded that it is a good place. According to the theory, this is indicative of a perspective on the world as benevolent, indicating an unshattered assumption. However, 27% (n=15) of the youth reported the world not to be a good place. These youth would be interpreted by Janoff-Bulman as expressing a belief in the world as not being benevolent. The remaining 11% said "both"/"it depends" (n=4) or "don't know" (n=2) when asked about the benevolence of the world, thus expressing difficulties with holding an absolute position on this matter.

When asked about the goodness of people 10 months after the tsunami, 82% (n=46) of the youth concluded that most people are good. This is interpreted by the theory as a psychologically sound belief, indicating that these youth's assumptions about the benevolence of people have not been shattered. 13% (n=7) answered "no", indicating a perspective on the world as malignant. The remaining 6% (n=3) expressed difficulties with answering "yes" or "no", and were thus placed in the "both" (n=2) or the "don't know" (n=1) categories.

¹ The terms *time1* and *time2* will be used as descriptions of the two interviews. *Time1* refers to the first interview, *time2* refers to the second. *Time 0* refers to the time before the Tsunami.

As large an amount as 95% (n=53) of the youth reported that bad things can happen to good people, interpreted by Janoff-Bulman as indicating a perspective on the world as unjust. The three remaining youth (5%) stated “no”. This position is interpreted by Janoff-Bulman as expressing a belief in justice, which is fronted as the psychologically sound of the two beliefs.

45% (n=25) concluded that bad things can be prevented most of the time. According to the theory, this position would be indicative of a belief in the controllability of man, which is the psychologically sound choice. However, 45% (n=25) did not believe it to be possible to prevent bad things from happening most of the time. This is interpreted by the theory as expressing a lack of control. The 10% remaining were either scored in the “both” (n=3) or the “don’t know” (n=3) categories.

23% (n=13) concluded that all things do not happen randomly. This is interpreted by the theory as believing that things happen for a reason, which is believed to be the psychologically sound assumption. However, 63% (n=35) of the youth reported that all things do happen randomly. Believing in randomness is interpreted by Janoff-Bulman as not believing that things happen for a reason. This is stated to be a psychologically unsound assumption. The remaining 14% (n=8) were all scored in the “both” category.

2 ½ years after the Tsunami

When asked the same five questions again 2 ½ years after the Tsunami, it was interesting to see that the major picture from the first interview was upheld, with a close to similar amount of youth expressing psychologically sound beliefs, indicating that their assumptions were not shattered in the long run. 71% (n=40) reported the world to be a good place, 95% (n=53) reported most people to be good people, 66% (n=37) concluded that most bad things can be prevented, and 32% (n=18) concluded that things do not happen randomly (see tab. 1.2).

The number of youth reporting answers seen by Janoff-Bulman as indicative of shattered assumptions were also close to similar to the findings from the first interview. When asked about the benevolence of the world 21% (n=12) of the youth responded that the world was not a good place and 5 % (n=3) that people are basically not good. 100% (n=56) of the youth concluded that bad things can happen to good people, 32% (n=18) did not believe it to be possible to prevent bad things from happening most of the time, and 66% (n=37) concluded that all things happen randomly.

The “both” category was used at time1, but not at time2. Therefore, the stability of this category has not been measured. However, these youths’ movements were measured and these will be described in the exploration of research question #3.

Assumptions_Time1

(Tab. 1.1)

	World	People	Justice	Controllability	Randomness
Yes	63% (35)	82% (46)	95% (53)	45% (25)	63% (35)
No	27% (15)	13% (7)	5% (3)	45% (25)	23% (13)
Both	7% (4)	4% (2)	0% (0)	5% (3)	14% (8)
No answer	4% (2)	2% (1)	0% (0)	5% (3)	0% (0)
n =	56	56	56	56	56

Assumptions_Time2

(Tab. 1.2)

	World	People	Justice	Controllability	Randomness
Yes	71% (40)	95% (53)	100% (56)	66% (37)	66% (37)
No	21% (12)	5% (3)	0% (0)	32% (18)	32% (18)
No answer	7% (4)	0% (0)	0% (0)	2% (1)	2% (1)
n =	56	56	56	56	56

2) To what degree do the youth themselves report of changes in their fundamental assumptions 10 months after the Tsunami disaster?

The youth were asked whether they believed their views had changed after their Tsunami experience. As can be seen in tab. 2.1 a majority of the youth did not believe that the Tsunami experience had influenced their fundamental assumptions 10 months after the tsunami. The youth reported most changes on the assumption of the benevolence of the world (38%; n=21) and randomness (38%; n=21). This finding states that these assumptions are the most affected of the five that were measured. The youth reported less change on the other three beliefs. The percentages ranging from 18% (n=10; controllability) to 25% (n=14; people).

The answers from the youth that reported a change were further analysed to see whether they expressed a positive change or a negative change in assumptions. A few youth (n= ranging from two-four) confirmed changes in their beliefs without giving enough descriptions to determine whether these changes were positive or negative. These were categorised as *neutral change* and excluded from the further analysis of the reported changes.

Some of the youth report that their Tsunami experience caused them to change their fundamental beliefs in a negative direction. As seen in tables 2.2 and 2.3, all the youth that expressed a change in their belief that bad things can happen to good people, reported a negative change (n=10; 100%). High percentages were also found for the belief related to

controllability (n=5; 83%) and the world as good (n=14; 74%). The changes were more varied on the belief related to randomness (n=9; 50%),

However, the youth who confirmed to have experienced change in their assumption about the goodness of people gave another impression. A majority of these respondents were scored as experiencing positive change (82%; n=9). Also worth noticing is the question about randomness, where 50% (n=9) expressed a positive change. The questions about the world and controllability also showed some positive change, with close to 20% of the youth expressing a positive change of their beliefs. For these youth, the Tsunami experience may have caused positive change in their world assumptions as they have been measured in this study. Some had enforced or gained a belief in the benevolence of the world and of people, some had acquired a new or enforced belief in the ability to control events, and some had gained or enforced the belief in the meaning of the things happening around them.

Change_Time 0-1

(Tab. 2.1)

	Yes	No	Don't know	n =	Yes %
World	21	30	5	56	38
People	14	38	4	56	25
Justice	13	39	4	56	23
Controllability	10	39	7	56	18
Randomness	21	30	5	56	38

Change_Time 0-1

(Tab. 2.2)

	Positive	Negative	n =	<i>Neutral</i>	<i>n = (incl Neutral)</i>
World	5	14	19	2	21
People	9	2	11	3	14
Justice	0	10	10	3	13
Controllability	1	5	6	4	10
Randomness	9	9	18	3	21

Change_Time 0-1_Percentages
(Neutral excluded)

(Tab. 2.3)

	Positive	Negative	Total
World	26% (5)	74% (14)	100% (19)
People	82% (9)	18% (2)	100% (11)
Justice	0% (0)	100% (10)	100% (10)
Controllability	17% (1)	83% (5)	100% (6)
Randomness	50% (9)	50% (9)	100% (18)

3) Were the changes reported by the youth 10 months after the Tsunami also expressed two years later?

As seen previously, a substantial number of youth experienced changes in one or more of their world assumptions 10 months after the tsunami. The next analysis was done in order to determine how stable the youth's views, or changes in views, were. The results seen in tab. 3.1 – 3.5 show the positional changes measured from 10 months after the Tsunami to 2 ½ years after the Tsunami. These results were analyzed using the McNemar Test for paired proportions. For all assumptions, the results were not statistically significant. The findings will now be described for each of the five questions.

Assumption #1: The benevolence of the world

Question asked: “Do you think the world is a good place?”

As seen in tab. 3.1, a substantial degree of stability was reported on the belief in the benevolence of the world; 29 (85%) of the youth who stated “yes” at time 1 held on to this position at time 2. At the same time, 4 (75%) of the youth answering “both” at time1 changed to a “yes” position. However, of the 15 youth who did not believe the world to be a good place at time 1, seven (50%) held on to their belief at time 2. These adolescents are of great interest considering their stable negative perspective on the world which is interpreted by Janoff-Bulman as indicative of a shattered assumption.

The most changes were reported among the youth answering “no” in the first interview. Seven of these (50%) moved to a “yes”-position. Small changes were also found in the initially positive group. Among these 34 youth, only five (15%) moved to a negative position between interviews. One youth (25%) from the “both” category also changed to a negative standpoint between the interviews. Thus, there were seven youth who held on to their negative beliefs through both interviews and six youth which changed to a negative standpoint between interviews. Considering Janoff-Bulman stating that this position is indicative of a disbelief in the world as benevolent, this is a very interesting finding.

Change_World_Time 1-2

(Tab. 3.1)

	Time 1	Time 2		
		Yes	No	Sign.
Yes	34	29 (85%)	5 (15%)	,549
No	14	7 (50%)	7 (50%)	
Both	4	3 (75%)	1 (25%)	
n =	52	(Four youth missing due to not answering Time1/Time2)		

In the first interview, 46 youth answered yes to whether they thought people were mostly good. As seen in tab. 3.2, the positive trend found in the first assumption was confirmed for this second assumption with 43 (93%) of these youth holding on to their belief in the benevolence of people through both interviews. This tendency was found for the rest of the sample as well, with both of the two youth who answered “both” and all of the seven youth who answered “no” expressing a belief in the benevolence of people in the second interview.

However, the three youth (7%) that expressed a belief in most people not being good in the second interview, had in the first interviewed expressed a belief in the goodness of people.

Change_People_Time 1-2

(Tab. 3.2)

	Time 1	Time 2		
		Yes	No	Sign
Yes	46	43 (93%)	3 (7%)	,344
No	7	7 (100%)	0 (0%)	
Both	2	2 (100%)	0 (0%)	
n =	56	(One youth missing due to not answering Time1/Time2)		

Assumption #3: Justice

Question asked: “Do you think bad things can happen to good people?”

For this question, a confirming answer is not interpreted to be a good thing. According to Janoff-Bulman’s theory this expresses a belief in the world as unjust, which is stated to be a psychologically unsound assumption. Therefore, as seen in tab. 3.3, it was interesting to find a new tendency in this third assumption with close to a solid majority (n=53) stating that bad things can happen to good people. Further more, the degree of stability was also very high for this assumption. All of the 53 youth held on to their initial position when asked again in the second interview. Also, the three adolescents who initially stated that bad things could not happen to good people changed positions between interviews. Thus, a total consensus stating that bad things can happen to good people was found in the second interview. In light of the theory, this is a worrisome finding considering it stating that every single one of the youth sees the world as unjust 2 ½ years after the Tsunami.

Change_Justice_Time 1-2

(Tab. 3.3)

	Time 1	Time 2		
		Yes	No	Sign.
Yes	53	53 (100%)	3 (7%)	<i>Not measurable</i>
No	3	3 (100%)	0 (0%)	
n =	56			

Assumption #4: Controllability

Question asked: “Do you think people for the most part can stop bad things from happening?”

For this assumption, a confirming answer is interpreted by Janoff-Bulman’s theory as expressing a belief in the ability for people to control the events of the world and this is viewed as positive. As seen in tab 3.4, close to half of the youth (n=25) expressed a belief in people’s ability to prevent bad things from happening in the first interview. Just as many youth (n=25) expressed a disbelief in the ability to prevent bad things from happening. Also, three youth stated “both” in the first interview.

Twenty of the youth (80 %) expressing a belief in people’s ability to prevent bad things from happening held on to this position through both interviews. 11 (44%) of the youth who initially expressed a disbelief in the ability to control the events of the world, also held on to their position through both interviews. These youth are of great interest, considering Janoff-Bulman’s notion that such a position is indicative of a psychologically unsound belief in not being able to control ones surroundings. Also, for these youth, this unsound belief is held stable over a period of two years.

The changes reported show that five youth (20%) move from a positive position to a negative position between interviews. These youth are also of great interest, considering that Janoff-Bulman would interpret these as expressing a newly inherited disbelief in the ability to control. However, a positive movement was also found. 14 (56%) of the 25 youth holding a negative perspective in the first interview changed to a position of believing in the ability to control between interviews. Also, the three youth that stated “both” in the first interview, moved to express a positive position in the second interview.

Change_Controllability_Time 1-2

(Tab. 3.4)

	Time 1	Time 2		
		Yes	No	Sign
Yes	25	20 (80%)	5 (20%)	,031
No	25	14 (56%)	11 (44%)	
Both	3	3 (100%)	0 (0%)	
n =	53 (Three youth missing due to not answering Time1/Time2)			

Assumption #5: Randomness

Question asked: “Do you think all things happen randomly?”

The youth were finally asked whether they believed that everything happens randomly. A confirming answer is stated to be expressing a psychologically unsound assumption which can be indicative of a shattered assumption. As seen in tab. 3.5, a majority of the youth expressed a belief in everything happening randomly (n=35) in the first interview. Thus, not more than 12 youth held the position interpreted by the theory to be the psychologically sound choice by expressing a disbelief in all things happening randomly. Also, this assumption had the largest amount of youth answering “both” (n=8) across all assumptions.

When looking at stability it was found that 7 youth (58%) held on to the belief that not all things happen randomly, which Janoff-Bulman would interpret as a positive belief. The youth expressing the negative belief in all things being random were the most stable (n=25, 71%).

Looking at the reported changes, one can see that five (42 %) of the youth who initially disconfirmed that everything happens randomly changed to a confirming position between interviews. This is interpreted by Janoff-Bulman as a negative tendency. Also, seven (88%) of the youth who answered “both” in the first interview, changed to expressing a belief in randomness in the second interview.

However, as many as 10 youth (29 %) initially expressing a belief in things happening randomly, changed to a disconfirming position between interviews. Also, one youth moved from stating “both” to expressing a belief in all things happening randomly. These findings show that this assumption has the largest amount of fluctuations between interviews across all assumptions. Also, this assumption holds a negative tendency of change which is very interesting for the exploration of the theory of fundamental assumptions.

Change_Randomness_Time 1-2

(Tab. 3.5)

	Time 1	Time 2				Sign
		Yes	No			
Yes	35	25 (71%)	10 (29%)			,607
No	12	5 (42%)	7 (58%)			
Both	8	7 (88%)	1 (13%)			
n =	53 (Three youth missing due to not answering Time1/Time2)					

Summary

The similar tendencies found in the first two assumptions and the three last assumptions are supportive of the separation made by Janoff-Bulman, stating that the two groups of questions measure two different fundamental assumptions. For the first two questions used to measure the benevolence of the world, the majority of the youth reported positive views 10 months after the Tsunami. Also, for both assumptions, this majority was even larger in size when the youth were interviewed 2 ½ years after the Tsunami. These results are shown in tabs. 3.1 and 3.2.

The three last assumptions, however, were shown to have a different tendency. These assumptions had more youth expressing positions interpreted by the theory as indicative of unsound assumptions. They also had a different tendency of change, with more youth holding on to, or moving in, a negative direction than the first two assumptions. Based on these results, as they would be interpreted by the theory of shattered assumptions, it is safe to conclude that these youth experienced a stronger blow to the assumption about the world's meaningfulness than the world's benevolence.

4) How do the youth reflect on the questions about the world's benevolence and meaningfulness?

In order to understand more about how the Tsunami may have influenced the youths' fundamental assumptions, they were asked to expand and reflect on their answers to each of the five questions. These answers were categorized to get a better picture of the typical themes of the youths' reflections.

As they were describing their assumptions, all of the youth made explicit references to the Tsunami experience. For instance, one girl stated: "I've always known about natural disasters, but you get more aware of it when you experience it yourself, because you've seen how much worse it really is than what you thought" (girl, 15). A few youth also made references to other experiences they felt had been important when discussing their assumptions. These youth typically made a reflection on whether the change of their beliefs was connected to the Tsunami experience or to other experiences: "I think it was because I was younger that I didn't have these thoughts earlier, not just the Tsunami". In this sense, the youth describe their assumptions as created and shaped through experience.

Domain #1: Benevolence of the world

Two types of reflections were found when categorizing the core ideas from this domain. One was related to why they held the belief they did, and the other was related to why they had changed their views. This resulted in two categories: 1) *Differences*, and 2) *I've changed*.

1) Differences

This category entails core ideas where the youth hold a global perspective, mainly focusing on the quality of life in Norway compared to other areas of the world. A boy aged 19 expresses this quite clearly: "It depends on where you are; Norway is definitely a good place to live, but war zones are not". Some descriptions of the world are quite harsh, focusing on the suffering experienced by people all over the planet. Typical phenomenon mentioned is hunger, war, natural disasters, and other catastrophes. "There's more misery than good things: Poverty, war, uneven distribution of goods" (boy, 16). It is interesting to see these youth drawing a line between the world as it is for people living in other areas of the world and the world as it is for them. For instance, a girl aged 20 first said that "these are cynical times; generally speaking, it's not a good place", then concluding that "for me, it's a good place". This difference is further specified by having to stay in the disaster area after the Tsunami and having the opportunity to go home to a safe environment: "I got to see the difference in us and them. We had a place to go home to, and enough money, while they lost everything they had" (boy, 16).

As seen in these answers, both positive and negative positions were clarified through a focus on differences. Typically, their "own little world" in their day to day living was characterized as good. The "real and global world" however, was for the most part described as including more bad things than good. One youth included both these perspectives in one sentence: "Living in Norway is good, but there are many places in the world where it's terrible to live" (girl, 17).

For some, the need for solidarity was mentioned when focusing on these differences. "I think the world could be a good place. However, I think we should deal with things as a collective; not alone" (boy, 19). Others focus on what people do to express their focus on solidarity: "They don't get enough support from us" (boy, 16).

2) I've changed

The core ideas defining this category are marked by youth expressing a personal experience of change. When asked about the benevolence of the world many youth express a widening of their horizon. Some express explicitly that they have changed from thinking about themselves

and their families, to thinking about the world at large: “Earlier, I thought the world was perfect. I didn’t see as far; I only thought of myself, my family, and my friends” (boy, 18). For some, this entails a strengthened focus on natural disasters: “I’ve thought about that; nature is more dangerous than you think” (girl, 15). Others express an intensified focus on the bad things of the world, linking this to having seen it themselves: “I used to be little, thinking everyone had a good life, but now I have seen poverty” (boy, 15). This feeling of having seen the bad things of the world themselves is shared by many: “It has changed after I went overseas and experienced the Tsunami and saw how other people live their lives up close, not just on TV” (girl, 17).

However, some youth express a similar experience of change while referring to other experiences than the Tsunami experience: “I’ve learned about misery in school” (boy, 16) and “My best friend lost her father to cancer” (girl, 19). Also, some of them referred to aging as a cause of their changing beliefs: “I believe my new way of thinking may have to do with me aging, not just the Tsunami” (girl, 17). These two perspectives on change are incorporated in one by a boy, aged 18: “I’ve changed due to growing older; the changes have more to do with experiences in general than the one Tsunami experience”.

Domain #2: Benevolence of People

One main category was extracted from the answers to the question about the goodness of people; *A core of goodness*.

The core ideas of this category express a belief in all human beings as holding something good on the inside, no matter what they do or say: “I think everyone has something good deep inside them, even if it doesn’t always show” (boy, 20), and “There’s something good inside all of us, even if you might have to dig deep to find it” (girl, 20). Even when taking under consideration the many bad things that people do, most youth hold on to their perspective on people as being good. The bad things are then explained as a result of people’s environment or culture: “If you live in a society with bombs all around you and get used to guns, you’ll become looser with such things than the people that live here in Norway” (girl, 16). Sharing this perspective, some youth express a belief that the Tsunami was a situation that potentially could bring out the best in people: “Even if there are people one doesn’t think of as good, I think that these people also would have been, had they been in that situation” (girl, 19).

Some youth describe the hours and days after the waves hit the shore as a turning point in their perspective on the benevolence of people: “You hear about people doing the craziest

of things, and you start to think that everyone's a bastard, but when we were down there I noticed how people were to each other, and then you think that, on the inside, people are really very nice!" (boy, 19), and "I used to only think about the bad things that people did, but the people in Thailand were so kind to us, even the people who didn't experience the disaster themselves" (girl, 15). The helpfulness shown by the Thai people is held as an evidence of the goodness of people by many of these youth: "I was touched by the fact that the victims down there gave us the last things they had left, considering them knowing that we would get back the things we lost when at home," (girl, 17), and "In Thailand, I really got to feel that people actually are good" (girl, 17).

Some youth even express a strengthening of their perspective on the *world* as benevolent when describing the helpfulness they experienced in the days after the Tsunami: "I've always thought of the world as a good place, but after I saw people being so helpful and taking care of each other my feeling has become stronger" (girl, 18). Interestingly, this core idea expresses the connection between the belief in the goodness of the world and the belief in the goodness of people which would be expected by Janoff-Bulman.

Domain #3: Justice

All of these youth have taken part in a disaster where hundreds of thousands of people died. With their shared belief in the universal goodness of people, it is not surprising to find that most of them base their answer on having experienced themselves that good people have died. All of the youth expressed a confirmative answer in the second interview (fig. 3.3?), indicating a shared belief in the world being unjust. When reflecting on their answers, it seems that their shared experience with such a sudden and meaningless treatment of mankind has been strongly involved in the creation or the enforcement of this belief.

A significant finding in the analysis was that many youth expressed that good people do not deserve such a fate. Therefore, one main category was extracted from these answers; *Nobody deserves to die*, which is a statement made by one of the youth in the sample (girl, 18).

Some youth reflect on whether people affected by bad things have done bad things themselves: "They didn't deserve it; they hadn't really done anything wrong" (girl, 17). This is explored by others while focusing on the innocence of people: "Innocent people are killed in Iraq" (boy, 15). In the same line of thinking, some reflect on whether bad things can be seen as a punishment: "You can see it as punishment or you can see it as a challenge in life. I

think that it's a bit narrow minded to see it as a punishment, really" (boy, 19), and "I used to think that good people would live and bad people would be punished" (boy, 18).

Domain #4: Controllability

The analysis of the core ideas resulted in the creation of two categories: 1) *Man vs Nature*, and 2) *They should've told*.

1) Man vs Nature

Typically, the youth separate between things that are controllable and things that are not. It is very interesting to see how the Tsunami experience is used by these youth as a typical reference when discussing control. For the most part, this involves a perspective on manmade events as controllable, while nature is considered to be impossible to control: "Natural disasters cannot be prevented, but war and such can be prevented" (girl, 17). Thus, a shared focus on nature was found, where the youth describe it as highly unpredictable and uncontrollable. Thus, by these youth, nature is fronted as the one thing that symbolizes the shortcomings of man: "Some things can be prevented, but not the Tsunami" (boy, 15), "Natural disasters and such cannot be prevented" (girl, 15), and "Nobody could have stopped it – it was nature" (girl, 14). Some youth express a more moderate position, focusing on the potential for people to reduce the after-effects of natural disasters: "People cannot prevent natural disasters, but to a certain degree they can reduce the consequences" (girl, 19), and "One cannot prevent natural disasters, but one can make it so they harm less people" (girl, 15). Other answers reflect a more positive focus on the things that are perceived to be under people's control. Things mentioned are war, pollution, poverty and diseases, exemplified by the following statements: "We can prevent poverty and disease" (girl, 14), and "We can do something about poverty, war, and hunger" (girl, 16). Other answers include the actions of man as a specification of what kind of bad things people are able to prevent: "For the most part, people are the cause of bad things happening so someone has to be able to stop it" (boy, 20).

2) They should've told

This second category includes core ideas reflecting on blame. Some youth state that people are to blame for the disaster, typically aiming their accusations at the American government and other people or institutions. These are said to be holding vital information about the earthquake and its potential after-effects, without warning potentially affected areas: "There were people who knew that the Tsunami would come – these people should have sounded the

alarm” (girl, 16), “Someone knew about it, but they were afraid of loosing tourists; that people would be afraid” (girl, 14), and “The Thai government could have warned people about what was going to happen” (boy, 19). Others comment on the uselessness in knowing about a Tsunami – it will still come and there is nothing to do about it: “It’s been said that someone knew about it without sounding the alarm; either way, they couldn’t have prevented that people were injured” (boy, 18). A different group of youth counters these statements by also focusing on who could be blamed for the disaster: “You can’t blame people for natural disasters, they just happen” (girl, 19), and “The wave was not caused by people” (girl, 16).

Domain #5: Randomness

The majority of the core ideas extracted from this domain evolve around the question of what, or who, is governing the things that happen to us. For the most part, this focus is connected to a search for a meaning. The analysis resulted in two categories; 1) *Is there a plan?*, and 2) *Nature at random*.

Some youth reflect on the eventuality of there being a higher force of some kind holding a plan for us all. Their reflections typically involve God, angels, or other religious terms: “How did the world come to be? I’m not that much of a Christian, so I don’t believe that there’s a God. Because if that’s true, there must have been someone behind all this, and then I just... sit there, thinking” (girl, 17), and “My mom believes in guardian angels. I believe in a mixture of angels and such... I’m not sure” (girl, 16). Others use the term fate when describing the eventuality of there being a plan for all the things that happen: “Everything that happens to all people and all other things are planned in some way or another; it’s fate” (girl, 19), and “I don’t believe in fate; I like to think that things happen randomly” (girl, 17). Several youth use the term meaning explicitly when reflecting on all things being random: “I don’t think there’s a meaning; I don’t believe in fate” (girl, 17), and “I usually think that there’s a meaning in things being such and such, but I can’t see that there’s a meaning in the Tsunami” (girl, 17).

While reflecting on whether things are planned or not, it is interesting to see that some youth express ambivalence while others seem to be more certain. The ambivalent youth strive to define what they believe in, finding it hard to exclude the perspective their beliefs are up against: “I like to think that there’s a reason for all the things happen, but if I think like that too much, I go crazy” (girl, 17), and “I try to be realistic, but deep down inside you think; was it really a coincidence?” (boy, 19). The certainty of others is also expressed: “I believe in fate;

I don't think it was a coincidence" (girl, 19), and "I don't believe in fate; I don't think things happen for a reason" (girl, 16).

2) *Nature at random*

Once again, a specific category describing the different qualities of man-made events and natural events had to be formed. The dominating belief in these answers is clearly that nature is a thing of random qualities, while the more man-made events like terror and war are described as planned: "The thing that happened on the 11th of September was not a coincidence, but earthquakes and such are coincidental". Thus, nature is not only used as a symbol of the uncontrollable (first category in domain #4) – it is also used as a symbol of the coincidental: "Natural disasters are completely random" (boy, 16). This description holds a frightening image of nature, which for some of the youth is explicitly linked with their Tsunami experience: "The Tsunami was coincidental" (boy, 18). However, for most youth, nature in general is the target of description.

Summary

These analyses show five domains, each with a separate set of core ideas, and each with a different set of categories. In the world domain, the focus on *differences* of the world dominates the analyses, with the youth stating *I've changed* constituting another interesting category. In the people domain, the belief in the *core of goodness* dominates the analyses. For many, this belief seems to have been confirmed in the Tsunami, and the youth give different accounts on how such a core still can be found even when people are not showing it. In the justice domain, a shared statement was expressed: *Nobody deserves to die*. The youth typically reflect on this by focusing on the lack of guilt on the part of the victims of the Tsunami. In the controllability domain, the youth typically focus on nature being uncontrollable. Another category in this domain was *They should have told*. The core ideas of this category express frustration towards those who had knowledge of the Tsunami before it struck without alerting people in danger areas. The randomness domain also includes a category focusing on *nature*, but for this domain the youth typically describe its random qualities. Also, the youth typically ask themselves; *is there a plan?* This category includes core ideas reflecting on existential questions.

Discussion

Why is this study of interest?

The complexity of trauma has been explored through different theoretical and empirical perspectives. However, there is still a lot more to learn about this phenomenon. Research is needed to further the development of therapeutic approaches that will ensure adequate assistance for patients struggling with the consequences of trauma. In this regard, this study is of interest on several accounts. Firstly, fundamental assumptions (Janoff-Bulman, 1992) of youth who have experienced trauma have rarely been explored. Secondly, such basic beliefs have rarely been explored within the context of a natural disaster. Thirdly, they have never been explored in a sample that holds both these qualities. This study is also of interest due to its longitudinal perspective, which can give vital information about the development of these youths' basic beliefs.

The shattering potential of the Tsunami

Two fundamental assumptions were explored in this study; the world is benevolent, and the world is meaningful. The two first questions; whether the world is a good place and whether people are good, are both used by Janoff-Bulman (1992) to explore the fundamental assumption about the benevolence of the world. The other three questions tap into the fundamental belief in the world's meaningfulness; whether bad things can happen to good people, whether bad things can be prevented, and whether all things happen randomly.

With this theoretical background, the results found in this study are interesting in different ways and on different levels.

Did the Tsunami change these youths' fundamental assumptions?

A majority of youth expressed what Janoff-Bulman (1992) would interpret as psychologically unsound assumptions about justice and randomness 10 months after the Tsunami. Also, close to half of the youth expressed negative assumptions about controllability. Based on these findings, one could conclude that for most of the youth, these three beliefs, which all pertain to basic assumptions regarding the world's meaningfulness, were significantly challenged by the Tsunami experience (see tabs. 1.1-1.2).

However, as seen in tabs. 2.1 – 2.3, when answering the question “Do you think differently about this now, after the Tsunami experience?” a majority of the youth reported not to have experienced changes in their assumptions 10 months after the Tsunami. Across all

assumptions, less than 40% confirmed changes, with as low a number as 20% on the assumption of controllability. Based on these findings, one could conclude that for most of these youth, the Tsunami did not challenge their fundamental assumptions about the world's meaningfulness. Thus, there is typically a discrepancy between the answer to the assumption question (i.e. "Do you think the world is a good place?") and the question of change ("Do you think differently about this now, after the Tsunami experience?") for the assumption of meaningfulness 10 months after the Tsunami. This means that some of the youth in the sample expressed negative assumptions without confirming to have changed them due to their Tsunami experience.

This is in line with Janoff-Bulman's description of our fundamental assumptions as not being consciously experienced, but rather held on a deeper level of consciousness. Based on Janoff-Bulman's theory, one could expect a survivor to not be consciously aware of the changes in his or her fundamental assumptions. Thus, the survivor will express a negative assumption, but without knowing the reasons for this assumption. Janoff-Bulman also states that these youth can be interpreted to have negative assumptions prior to the Tsunami experience. This study does not include findings on the youths' prior beliefs, and it is therefore difficult to conclude on this matter. However, the difference can also be explained by the time period that had passed from the Tsunami to the first interview. The youth were first interviewed 10 months after experiencing this event. Thus, their negative assumptions might have been a direct result of their Tsunami experience, but as they went on with their lives, they forgot that they thought differently in the past. Hill et al (1997; 2005) has focused on forgetfulness as a typical methodological problem. According to their perspective, 10 months is a questionably long period of time to pass before asking these youth to reflect on the consequences of their Tsunami experience.

The analysis of the changes between the two interviews did not include both these analytical approaches. For this analysis, the answers to the assumption questions from the first interview were compared to the answers from the second interview using a quantitative approach. The question of change was also used, but this time the answers to this question were analysed qualitatively for the purpose of finding common themes in the youths' reflections of change. In the quantitative analysis (tabs. 3.1- 3.5), it was found that the tendencies of change between the interviews were positive for most of the assumptions. The youth who initially gave a positive response tended to hold on to this position when asked again about two years later. Also, the youth who initially gave a negative response tended to

change to a positive response between the interviews. These findings are not statistically significant. However, different explanations of these tendencies will still be explored.

Thus, the results indicate that across all assumptions, some of the youth confirmed to have experienced changes from before the Tsunami to 10 months after the Tsunami, while others did not (see tabs. 2.1-2.3). However, a majority of the youth expressed negative assumptions for the assumptions of justice and randomness in this first interview (see tabs. 1.1-1.2). Also, close to half of the youth expressed a negative assumption of controllability. Following Janoff-Bulman, this indicates that their belief in the world's meaningfulness has been challenged. For the second period of time explored by this study, a substantial amount of youth expressed stability in their assumptions between the interviews while some expressed changes. And, as seen in tab. 3.1- 3.5, a positive tendency of both stability and change was found for this time period. How can these findings be explained? Four main explanations will be described to explore this question.

Different traumas affect different beliefs

As mentioned, Janoff-Bulman (1992) separates the world beliefs in two fundamental assumptions; the world is benevolent and the world is meaningful. Both of these assumptions are explored by this study; the first two questions asked are set to measure the world's benevolence, and the last three are set to measure the world's meaningfulness. According to the theory, one would expect these two groups of questions to give different results. This expectation was satisfied. A clear-cut separation between the first two assumptions and the last three assumptions was found when analysing the results.

Firstly, in the exploration of the youths' belief in the goodness of people, more positive than negative changes was found for both time periods. This indicates that this assumption was not typically challenged by the Tsunami, but rather enforced. Likewise, the question regarding the belief in the goodness of the world gave close to the same number of youth expressing a belief in the world being a good place as the amount of youth expressing a belief in the goodness of people 10 months after the Tsunami. These results were stable; when asked 2 ½ years after the Tsunami, a positive majority was found for both assumptions (see tabs. 3.1- 3.5). Thus, it seems that the assumption that the world (which here includes both the world and people) is benevolent was not challenged by experiencing the Tsunami.

However, the analyses of the assumption regarding the world's meaningfulness gave a different picture in the first interview. All three assumptions that were set to measure this fundamental assumption gave negative results, with justice expressing the most negative

position. These tendencies were also found to be stable across both interviews. How can this separation be explained?

When exploring Janoff-Bulman's rationale for separating these assumptions, important aspects are revealed. Most importantly, her theory describes the presence or absence of an agentive other as a valid explanation for different traumas challenging different beliefs. Due to the trauma in question being a natural disaster, and not a man-made disaster, there is no agentive other present. Therefore, it is expected to hold a lower potential for shattering an assumption regarding benevolence than what would be expected of an assault or a rape. One can speculate, for instance, that persons affected by the disaster on September 11th may have shattered their belief in the benevolence of the world to a larger degree since this disaster was caused by people. In particular, this would be expected for the belief in the goodness of people. This is in contrast to the Tsunami disaster where the belief in the benevolence of people overall was not shattered.

The qualitative analyses on the youths' reflections support this line of thinking. These reflections provide a very specific explanation of their positive changes. Most of the youth report that they were impressed by the altruistic behaviour offered by other survivors, particularly the Thai people, in the hours and days after the waves hit the shore. Thus, the main category from the people domain expresses a shared belief in all people having *a core of goodness*. On the one hand, this tells us that the specific details of the relevant trauma can be directly connected with specific beliefs. It might therefore be of importance for a victim's coping process, for instance in a therapeutic context, that the elements of the trauma are explored. This will give important information for knowing which beliefs that might have been challenged, or even shattered. On the other hand, this finding might be indicative of the more fundamental aspect of Janoff-Bulman's theory; that we need to believe in the goodness of people to feel secure, to have trust, and to feel invulnerable. The belief in the goodness of people may therefore be the psychologically most important assumption and therefore most resistant to change. This hypothesis is also supported by the qualitative analyses; some core ideas express a need to believe in the goodness of people, no matter how the people in question have behaved. When reflecting on the bad things people do, the youth typically make long turns to avoid hurting the belief in the core of goodness: "Some people are worse off than others, and some think differently" (girl, 16). Also, some youth express that they hold on to the belief even when it is not confirmed: "Even if it doesn't show, you know it's there" (boy, 19).

McCann & Pearlman (1990) has expanded the analysis of the different psychological needs that are assumed to be connected with our beliefs. In their constructivist self-developmental theory, seven psychological needs are stated to be fundamental for the individual. Among these, the needs of safety, trust, intimacy, and esteem for others are stated to be the foundation for the belief in people's benevolence. Thus, according to McCann & Pearlman, these youths' seemingly impervious belief in the goodness of people will be interpreted as a result of these needs. Bolton & Hill (1996) has also explored the needs which are connected to our basic beliefs in more detail. Here, the need to act is stated to be the most fundamental. This need is stated to be challenged when one's fundamental beliefs are shattered:

“if these assumptions were to be given up, action would appear as either impossible or pointless, or both” (Bolton & Hill, 1996, p. 357)

Thus, this theory states that information which challenges these fundamental beliefs are disregarded so that the ability to act is upheld. These theoretical differences on the connection between our beliefs and our psychological needs have yet to be explored through empirical findings. However, this study indicates that the connection is a valid focus for understanding the protection of our fundamental assumptions.

10 months after the Tsunami, the youth reported more negative than positive changes when reflecting on their assumption about the goodness of the world than they did when reflecting on the goodness of people (see tabs. 2.1-2.3). In fact, alongside randomness, this assumption had the highest number of youth reporting changes, with a majority of these expressing negative changes. This finding might seem to be a bit of a mystery. However, such a finding can be indicating that the youths' views on the world have changed, but that they still hold on to their positive assumption. This hypothesis, which is stated by Janoff-Bulman (1992), is supported by the qualitative analyses. Here, the youth express a shared interest for the differences of the world, resulting in the category *Differences*. These core ideas typically express a belief in the world at large being a place with uneven distributions of goods and with a lot of bad things happening. Even still, a typical conclusion is that “for me, it's a good place” (girl, 15). Thus, the positive findings from the first two assumptions seem to lead to different explanations. This confirms Janoff-Bulman's notion of different beliefs being challenged in different ways by the very same traumatic event. At the same time, the similarly positive tendencies found in these two assumptions confirm Janoff-Bulman's separation.

As mentioned, the fundamental assumption of the world as meaningful was severely more challenged by the Tsunami experience than the assumption of the world as benevolent.

To clarify this distinction, the possible reasons for the challenging of the three assumptions connected to meaningfulness have yet to be explored.

The belief in justice was shown to be the most negative among all beliefs explored. Interestingly, when describing their reflections on this belief, the youth typically refer to the Tsunami experience as confirming that bad things can happen to good people, which was the question asked to measure this assumption. This is symbolic of the three assumptions connected to meaningfulness. When describing their reflections on justice, controllability, and randomness, most youth seems to refer to nature in general and the Tsunami in particular as an unjust, uncontrollable and random event which has no meaning. In particular, this description is shown in the categories focusing on nature, which is found for both the controllability domain and the randomness domain. “We cannot prevent natural disasters” (girl, 18), and “Natural disasters are random” (girl, 16) are typical core ideas from these categories. Thus, it seems that the hypothesised connection between the details of the traumatic event and the challenged beliefs is a valid explanation also for these assumptions.

Individual differences

The theory of fundamental assumptions states that the same trauma may have different consequences for different individuals. The reasoning behind this hypothesis is that different individuals have different characteristics which are of importance for coping with traumatic experiences (Janoff-Bulman, 1992).

A tendency of expressing more positive assumptions in the second interview than the first interview was found for the two assumptions measuring benevolence (see figs. 3.1- 3.5). However, a small group of youth express stable negative assumptions from the first interview to the second. According to Janoff-Bulman, negative stability is indicative of a shattered assumption that has not been rebuilt. These youth are therefore very interesting for this study. Also, some youth moved from expressing a positive assumption in the first interview to expressing a negative assumption in the second interview. These youth are also very interesting, because the typical tendency of the sample is to move in a positive direction.

Janoff-Bulman states that the individual survivor’s characteristics have great importance for how the potentially traumatic event will be faced. This hypothesis has been given empirical support (Harris & Valentiner, 2002). Following this line of thinking, several aspects of the individual would be of importance. Firstly, Janoff-Bulman states that the discrepancy between the beliefs expressed by the traumatic event and the beliefs possessed by the individual survivor, are important. If the discrepancy is large, the risk of shattering the

belief is believed to be higher than if the discrepancy is small. The content of ones assumptions is stated to be a result of ones previous experiences, starting with the earliest relationship with ones caregivers. Thus, an individual whose assumptions have been tested by difficult experiences in the past will hold more negative assumptions than an individual whose assumptions have not been tested. However, this is stated to depend on the quality of the individual's coping process. In conclusion, Janoff-Bulman states that an individual, who has been tested in the past and succeeded with the rebuilding of the assumptive world, will now be better prepared psychologically to face future challenging experiences. This hypothesis can not be explored in this study, but has been supported empirically in other studies (Linley & Joseph, 2001).

Other explanations to the individual differences have been noted. Bolton & Hill (1996) has emphasised the individual differences in the balance of ones beliefs. This hypothesis states that whether your beliefs are balanced or not depends on whether you have experienced and incorporated both negative and positive events previously in your life. The negative individuals in the sample can thus be described as holding predominantly negative beliefs, which are interpreted as unbalanced. The goal would be to incorporate the positive experiences of their lives in their beliefs, so that they are well balanced. This study has no information on previous beliefs or events before the tsunami. Thus, we cannot know whether this is a reasonable explanation for the differences found.

Foa et al (1999) has also made an important contribution to this discussion. Here, the focus lies on the level of rigidity of ones beliefs. Their hypothesis states that our beliefs should be flexible so that they can be faced with traumatic events without being shattered. Thus, the continuous solidification of our beliefs described by Janoff-Bulman as a natural developmental process for schemas is here described as an inadequate starting point in the face of trauma. For such experiences, flexibility is seen as the best thing, rigidity. However, this point is duly noted by Janoff-Bulman's approach; our natural tendency of solidifying our beliefs is seen as a good coping strategy in general. However, when we are faced with potentially traumatic events, we would profit on having more flexible beliefs. This is exactly what Janoff-Bulman specifies through her perspective on psychological preparedness. Thus, this discussion evolves around the theoretical understanding of how our beliefs are formed and shaped through childhood. Janoff-Bulman holds a determinist perspective on this matter, referring to major contributions by Bowlby (1963/67) and Stern (1985) among others, which state that our first years of life are especially important for the content of our beliefs. This is a major discussion which is not considered to be within the realms of this paper. When asked 10

months after the Tsunami the youths' reported changes do indicate that the content of some of their beliefs was challenged by this experience. However, whether their beliefs were rigid or flexible before the experience was not measured before the incident. This retrospective approach is a typical element of research on trauma, obviously caused by the incidental nature of such events. As such, the hypotheses made on this regard have not been measured by this study.

There are, however, several interesting hypotheses to be made on the matter of the minority of individuals moving in a negative direction on their assumptions of benevolence. Firstly, a hypothesis on this regard would be that these youth have had experiences that would cause them to express more negative assumptions in the second interview than they did in the first interview. Another hypothesis would be that their change expresses delayed consequences of the challenges provided by the trauma. Empirical studies have shown this to be found within populations expressing symptoms of PTSD (Ehlers, Mayou, & Bryant, 1998; Bryant and Harvey; 2002). Following Janoff-Bulman, these youths' assumptions have not been shattered, but they may still have been modified. The discrepancy between the reported changes on the belief in the goodness of the world 10 months after the Tsunami and the majority of positive assumptions stated in the same interview, confirms this line of thinking. The qualitative analyses also lend support for this hypothesis; the youth express a newfound perspective on the differences of the world, but still they conclude that "for me, it's a good place" (girl, 16). If this is so, one could expect that these changes to be strengthened in the youths' subsequent development. Referring to the qualitative analyses, the youth reported to have changed. One of these changes was a more global perspective on the things happening around them, for the most part expressed by registering more of the bad events through mass media. It could be argued that such a change would be difficult for a youth, considering the amount of news evolving around the bad things happening all over the planet. Thus, depending on their ability to cope with such news, such youth could cause a delayed and lengthened shattering of their assumptive world. To test this hypothesis more thoroughly, it would be of interest for future studies to analyse such youths' individual developmental pathways.

Posttraumatic growth

The positive findings regarding the belief in the goodness of the world and people have already been clarified and discussed. However, also worth noticing are the questions about controllability and randomness, which both show some youth to be indicating a positive

change of their beliefs 10 months after the Tsunami (see tabs. 2.1- 2.3). For these youth, the Tsunami experience had caused a positive change in their lives. Some had enforced or gained a belief in the benevolence of the world, some had acquired a new or enforced belief in the ability to control events, and some had gained or enforced the belief in the meaning of the things happening around them. The only assumption that did not entail positive changes was the assumption of justice.

A positive tendency was also found when comparing the youths' assumptions expressed in the first interview with the assumptions expressed in the second interview (see tabs. 3.1- 3.5). Justice was once again the only assumption with a stable negative majority through both interviews. Negative tendencies were also found for the assumption about randomness, but for the other three assumptions, there were more youth expressing positive beliefs 2 ½ years after the Tsunami than 10 months after the Tsunami.

Collectively, the tendencies of change between the interviews show that most of the youth who initially expressed positive assumptions held on to this position in the second interview. Also, the youth who initially expressed negative assumptions tended to move to a positive position between interviews (see tab. 3.1-3.5).

The qualitative analyses confirmed these findings. Across all domains, core ideas commenting on positive changes were found. As would be expected from the quantitative analyses, most positive comments were found in the people domain and the world domain. However, the other three domains also included positive core ideas. For the most part, these evolve around positive personal characteristics that have been gained in the months and years following the Tsunami: "I understand more now than I did before" (boy, 15), and "I would say it's positive; I have a much greater interest of reaching new goals than others. It's incredible what you can do, if you just set your mind to it" (boy, 19).

The theory of fundamental assumptions states that a positive outcome can be expected in the aftermath of a traumatic experience. However, this is dependent on people succeeding with establishing a new set of world beliefs where the traumatic event is comfortably incorporated. Such positive outcomes have been described as Posttraumatic Growth (Tedeschi & Calhoun, 2004). A model provided by Calhoun & Tedeschi (1996) refers to five positive outcomes, as they are typically reported by survivors of trauma: new possibilities, relating to others, personal strength, spiritual change, and appreciation of life. Looking at the qualitative analyses it was found that all these outcomes are reported in this study – if not by many so at least by a few: "I have become more appreciative of things" (boy, 19); "I enjoy helping

people more after the Tsunami” (boy, 19); “I’ve become more aware of all the good things in the world” (girl, 18).

Commenting on Calhoun & Tedeschi’s (1996) model, Janoff-Bulman (2004) describes three explanatory models which seek to connect the details of the survivor’s coping process with typical positive outcomes; strength through suffering, psychological preparedness, and existential re-evaluation. It is important to note that Janoff-Bulman explicitly notes that these positive outcomes are dependent on an adequate coping process. This process entails a rebuilding of one’s assumptive world in such a manner that it incorporates one’s newfound beliefs. Such a positive process is typically dependent on good social support on the part of the survivor’s immediate surroundings.

Considering the positive tendencies in this group of youth, the majority of these youth seem to have had an adequate coping process. Another explanation would be that the experience was not distressing enough for challenging their beliefs. However, all these youth had experiences defined as traumatic according to the DSM IV criteria (APA, 2000). Also, the negative assumptions of the world’s meaningfulness reported in both interviews discredit such an explanation.

Two of these models are stated to be well within the explanatory reach of the theory of fundamental assumptions. Firstly, the psychological preparedness model states that a positive outcome of a good coping process will be that the survivor will be better prepared when facing challenging events in the future. The reason is explained to be that an adequately restructured assumptive world is built stronger than the one that stood there before. It can thus be hypothesised that the youth of this study who changed from a negative to a positive position between interviews, and thus indicating to have good coping strategies, are well prepared for eventual traumatic experiences in the future.

The existential re-evaluation model states that a traumatic event will challenge the victim’s belief in the world’s meaningfulness. This will force the victim to start an active search for meaning in his or her life. When adequate coping is in place, such a search will typically entail a newfound meaning in life which is based on the experience of almost not having a life. This process is stated to correspond with several of the outcomes stated by Calhoun & Tedeschi (1996); appreciation of life, relating to others, and spiritual change. Thus, the youth describing such changes will, according to this model, be prone to have experienced a newfound meaning in life. The youth typically expressed a search for meaning, but they did not extend this to a conclusion of newfound meanings: “I used to think that things were planned, but not so much anymore. Even still; everything that happens to everyone is

planned in some way or another. Maybe it's fate?" (girl, 18). However, one could hypothesise that a new study which sought to explore the youth who expressed positive changes would find that they have found new meanings in life in the aftermath of their traumatic experience.

Looking at the youths' reflections, another aspect is brought into this picture. A typical theme was that they could leave the disaster areas after a few days and go home to stable and comforting surroundings: "We had a place to go home to, and enough money, while they lost everything they had" (boy, 16).

Fundamental assumptions in a youth sample

Janoff-Bulman (1992) states that our fundamental assumptions are formed from an early age. The child creates its beliefs concerning other people, and the world at large, through its relationship with the immediate caring environment. The beliefs are then put to the test as the child is aging, meeting new challenges along the way. Reaching adolescence, we are still developing our beliefs, but as we get older they get more and more impervious in the face of new experiences. Finally, when reaching adulthood, the only thing that can result in an abrupt change of our assumptions is a traumatic experience.

This part of Janoff-Bulman's theory has not been explored to a sufficient degree. Thus, it is interesting to see that the youth who took part in this study, which holds a time span of close to two years between the two interviews, express more stability than they express change (see tabs. 3.1- 3.5). This finding tells us that these youths' assumptions might be solidified to an extended degree. Typically, the youth describe the Tsunami as a challenging event which has had a significant meaning in their lives. Also, the youth typically describe changes, some to a negative degree, in how they think about benevolence and meaningfulness after the Tsunami. Even still, for the assumption of benevolence, a majority of the youth tend to hold on to their positive assumptions. Also, for the assumption of controllability and randomness, many youth hold on to their positive position. Following Foa et al's (1999) perspective on the soundness of having flexible beliefs, this positive tendency indicates that these youths' beliefs are flexible. This approach is further supported by the qualitative analyses. The youth typically reflect on changes in how they think about the topics of exploration, often expressing ambivalence. However, they still hold on to their positive beliefs. This tells us that there might be something to both Foa et al's and Janoff-Bulman's approaches. It might be that to be flexible and thus able to reflect on the pros and cons of one's beliefs is a good coping strategy. However, if there is no fundamental assumption for these

youth to fall back on, it might be more difficult for them to cope with their challenging experience.

Bolton & Hill (1996) holds a different perspective to these findings. Based on this approach, it can be states that these positive youth hold balanced beliefs. This would entail that these youth have experienced and incorporated both negative and positive events previously in their lives. When facing the Tsunami and its psychological aftermath, these youths' balanced beliefs made them robust enough to face the challenge. As mentioned, this study does not hold records of the youths' experiences or beliefs as they were before the Tsunami. The discussion of these different approaches needs to be explored more thoroughly in future research.

Another aspect regarding the age distribution in this sample is that a central hypothesis made by the theory of fundamental assumptions was confirmed. The Tsunami was found to affect the fundamental assumption of benevolence to a lower degree than the assumption of meaningfulness. Thus, it is probable that these youth have the same organising of beliefs that has been confirmed in adult populations (Franklin et al, 1990; Giesen Bloo & Arntz, 2005; Harris & Valentiner, 2002; Janoff-Bulman, 1989; Magawaza, 1999; Matthews & Marwit, 2004; Owens & Chard, 2001; Solomon et al, 1997). It also tells us that these youths' different assumptions are affected by a natural disaster in the same manner as would be expected of adults. However, more studies are needed to further explore these hypotheses.

Janoff-Bulman states that youths' beliefs are in the process of being solidified. The majority of the youth explored in this study express a tendency of stability in most of the assumptions. This indicates that these youths' assumptions are solidified to a significant degree. However, the stability was not shown to be statistically significant. Thus, it is difficult to conclude on these findings. More longitudinal studies are needed on youth who have experienced trauma, so that this hypothesis can be explored further.

Clinical implications

The findings of this study point to several important aspects for the therapeutic assistance of youth who have experienced trauma. Firstly, the details of the youth's traumatic experience should be explored thoroughly by the therapist. Following the findings of this study and the theory of fundamental assumptions (Janoff-Bulman, 1992), this would give vital information to which of the youth's basic beliefs that have been challenged. This can assist in the specification of the treatment approach. Secondly, this study has shown that youth can find positive elements in a potentially traumatic event. In therapy, these elements can be explored

and enhanced as resources. These resources can be used by the youth to overcome more challenging aspects in the aftermath of trauma.

However, for both of these implications, it is important that the therapist holds a close count on the individual experience, and not just the collective tendencies. The findings of this study indicate that different youth experience the same traumatic event in different ways. Also, the age of the patient might be of importance on this regard. How traumas affect youths' basic beliefs is still an important question that needs to be raised in future studies, so that youth on different levels of development can be given adequate therapeutic assistance.

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Appendix 1

5. GRUNNLEGGENDE ANTAGELSER OM VERDEN

(NB bare for barn 12-18 år. For yngre barn gå rett på neste tema)

Noen ganger kan mennesker som har opplevd en katastrofe forandre syn på en del ting.

	JA	NEI
Tenker du at verden er et godt sted?	<input type="checkbox"/>	<input type="checkbox"/>
Har dette forandret seg etter tsunamien? Fortell	<input type="checkbox"/>	<input type="checkbox"/>
Tenker du at mennesker stort sett er gode?	<input type="checkbox"/>	<input type="checkbox"/>
Har dette forandret seg etter tsunamien? Fortell	<input type="checkbox"/>	<input type="checkbox"/>
Tenker du at fæle ting kan skje med gode mennesker?	<input type="checkbox"/>	<input type="checkbox"/>
Har dette forandret seg etter tsunamien? Fortell	<input type="checkbox"/>	<input type="checkbox"/>
Tenker du at mennesker stort sett kan forhindre at dårlige ting skjer?	<input type="checkbox"/>	<input type="checkbox"/>
Har dette forandret seg etter tsunamien? Fortell	<input type="checkbox"/>	<input type="checkbox"/>
Tenker du at det som skjer er helt tilfeldig?	<input type="checkbox"/>	<input type="checkbox"/>
Har dette forandret seg etter tsunamien? Fortell	<input type="checkbox"/>	<input type="checkbox"/>